UNIVERSITY OF CAPE COAST

EFFECTS OF THE TWELVE-STEP FACILITATION AND MOTIVATIONAL INTERVIEWING TREATMENTS ON ALCOHOL CONSUMPTION AMONG UNDERGRADUATE UNIVERSITY STUDENTS IN THE CENTRAL REGION, GHANA

CHRISTIAN EVADZI

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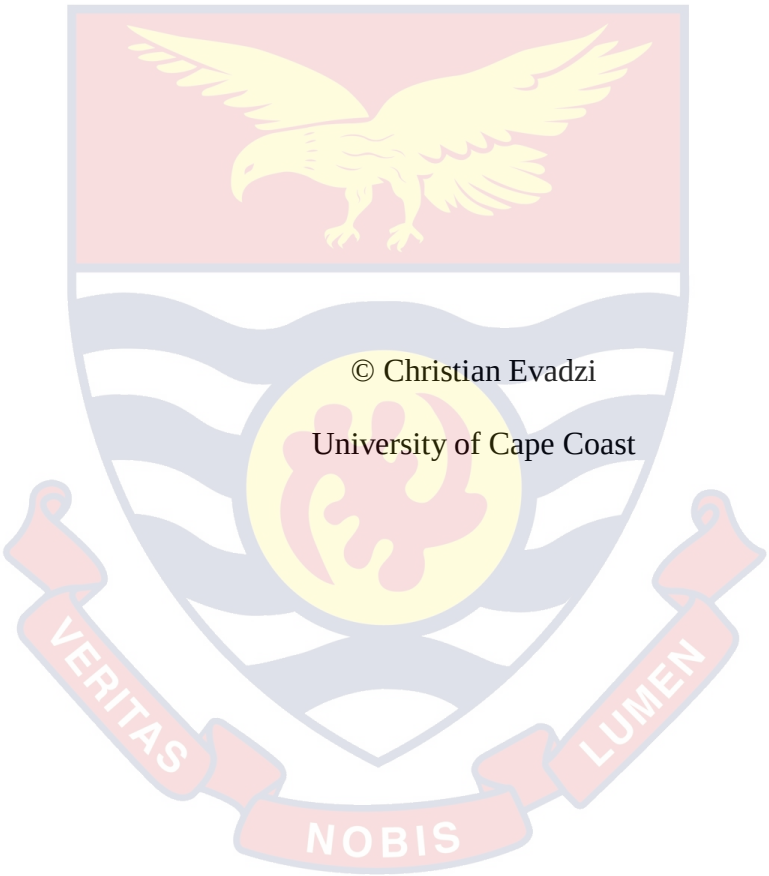

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BY

CHRISTIAN EVADZI

Thesis submitted to the Department of Guidance and Counselling of the Faculty of Educational Foundations, College of Education Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Doctor of Philosophy degree in Guidance and Counselling

DECEMBER 2019

DECLARATION

Candidate's Declaration

I hereby declare that, this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature…… Date …….

Name: ……..

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature ……..... Date ……...

Name: ……..

Co-Supervisor's Signature ……..... Date ……...

Name: ……..

ABSTRACT

The study sought to ascertain the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among undergraduate university students in the Central Region of Ghana. Quasi-experimental design was used. The objectives were to ascertain the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption, to examine the influence of gender, age and religion on the alcohol consumption among participants in the experimental groups. To achieve these, four hypotheses were postulated and tested. The population for the study was 9,922 being third year regular students from the three public universities in the region. Simple random sampling was used to select one academic department and one programme in each university. Based on this, 370, being the accessible population in the three selected programmes was administered the questionnaire and 87 met the inclusion criteria. However, 60 participants were selected using simple random sampling technique for the intervention. Alcohol Consumption Inventory was used to collect data. The hypotheses were tested at 0.05 level of significance. Data were analyzed using one-way and two-way ANCOVA. The findings showed both the twelve-step and motivational interviewing treatments were effective in reducing alcohol consumption among the participants significantly. Gender had significant influence, however, age, and religious background did not have significant influence on the alcohol consumption of participants in the experimental groups. It was recommended that, University Counsellors should make use of the twelve-step facilitation and the motivational interviewing treatments in counselling students with risky and abusive alcohol consumption behaviour.

KEYWORDS

Alcohol

Abusive Alcohol Consumption

Group Counselling

Motivational Interviewing

Risky Alcohol Consumption

Twelve-step Facilitation

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DEDICATION

To Rev. Msgr. Prof. Stephen Ntim, an Associate Professor, Psychology of Education at the Catholic University College, Ghana (CUCG) Fiapre Sunyani, who inspired me into academia.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

This study sought to establish the efficacies of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among undergraduate university students in the Central Region of Ghana. Universities are major hub for talents and skills development and mobilization for the national human resource base. Corporate institutions and industries engage these graduates as floor, middle and top level managerial personnel to occupy different roles and make critical decisions. It is, therefore, relevant that, any behaviour among this category of people that is likely to mar their full functioning or lower their productivity is investigated scientifically and solutions proffered. The study relates to previous works such as proportion of university students who consume alcohol and factors of alcohol consumption, prevalence of alcohol consumption and factors influencing alcohol use among the youth among others. The theoretical and practical implications of this study are that, there are existing theories and counselling treatments for drug and alcohol related cases. It is, therefore, feasible to use some of these theories and treatments to reduce risky and abusive alcohol consumption behaviour among undergraduate university students in the region.

Background to the Study

According to Chaftetz (2011), alcohol has existed longer than all human memories and that it has outlived generations, nations, epochs and ages. Fermented beverages have existed as early as Neolithic Period (10,000 BC) and fermented fruits that contained nearly 5% of ethanol have been around since the evolution of man.

Alcohol, also known as ethanol is a colourless flammable liquid which can be found in wine, beer, spirits and other drinks. It can also be used as fuel and or as industrial solvents. Alcohol is the product of fermentation of yeast, sugars and starches. Alcohol is a drug (Bai, Anderson, & Moo-Young, 2008) and it is classified as a depressant. This means that, it slows down vital functions of the human system resulting in slurred speech, unsteady movement, inability to quickly react as well as the ability to think rationally and distorts ones judgment.

Alcohol exerts an effect on every organ of the human body (Bai et al, 2008). It depresses the central nervous system. Alcohol can readily be absorbed by the small intestines. It can quickly travel to the central nervous system and depress the system (Messing, 2014; Zakhari, 2006). The metabolism of this substance takes place in the liver. This action of metabolism is accomplished by the liver enzymes. The liver metabolizes a portion of alcohol at a time, remaining left over circulates throughout the human body. The real intensity of the alcohol on the body is proportional to the intake. Therefore, individual reactions are varied to the alcohol, and this can be due to many reasons and factors that are present. Some of the factors could be age, gender, the physical condition (weight, fitness level etc.), and the amount of food the person consumed before taking alcoholic drink.

Other influencing factors include drugs or prescription of medications and family history of on the alcohol problems (CDC, 2000). The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, DSM IV, (2000) and the World Health Organization (1992)'s International Classification of Mental and Behavioural Disorders describe the

criteria that are used right now. Abuse/Harmful Drinking: One or more of these symptoms/behaviours must have been present for at least one year:

1. Not following through on obligations and responsibilities (e.g., repeated absences from work or school, neglecting home and children);
2. Legal problems (e.g., being arrested for public drunkenness, assaults while drunk);
3. Dangerous behaviour while drunk (e.g., driving)
4. Social or interpersonal problems that involve drinking (e.g., violence, arguments with spouse about drinking); and
5. High daily consumption, binge drinking, frequent heavy drinking.

The use of alcoholic beverages has been an integral part of many cultures for thousands of years (McGovern, 2009). Prior to the modern era, fermented alcoholic beverages were known in all tribal and village societies except in Australia, Oceania and North America. In societies where there was no aboriginal alcohol consumption, the encounter with alcoholic beverages was often abrupt and highly problematic. Where alcohol was traditionally consumed, production of alcoholic beverages commonly occurred on a small scale as a household or artisanal activity, particularly when and where agricultural surpluses were available. Drinking alcohol was thus often an occasional and communal activity, associated with particular communal festivals (Room, Babor & Rehm, 2005).

There are many places in the world today where versions of these traditional patterns originating from tribal and village societies persist (Obot, 2000; Room et al., 2005; Willis, 2006). Superimposed upon, and often replacing the aforementioned traditional patterns of drinking, are patterns of

production and consumption which developed in European empires and during early modern industrialization. These involved new beverages, new modes of production, distribution and promotion, and new drinking customs and institutions (Jennigen, 2008).

As distilled spirits became available and transportation improved, alcoholic beverages became a market commodity which was available in all seasons of the year, and at any time during the week. This increased supply and availability often proved disastrous for indigenous economies and public health (Colson & Scudder, 1988). The consequences were also often catastrophic elsewhere in the world (Room et al., 2005). By the nineteenth century, leaders of industry were viewing alcohol as a major impediment to industrial livelihoods, which demanded a sober and attentive workforce.

Eventually, and with great difficulty, industrializing societies in Europe and elsewhere came to see the flood of alcohol as a substantial social and health problem. In a number of countries, popular social movements to limit drinking and even to prohibit it gained broad membership and eventually political strength. In most of these countries, after a century or more of popular movements and political activity, a new and fairly stable alcohol control structure was put in place (Aaron & Musto, 1981; Room et al., 2005; WHO, 2011). In cultures like that of Egypt, alcohol was essential for nutrition, medicine, religious and spiritual ceremonies and it involved inclusion of alcohol beverages in tombs of the deaths so that they could be used in after-life. The Chinese also believe in the spiritual capacity of alcohol and consider it as a source of inspiration and an antidote for relief from pain and sadness. The process of distillation was originally cited at the school of Salerno, Italy

in the 12th Century. Hard liquor became more prevalent between the 16th and the 17th Century. The negative effects of alcohol, which include aggression, health concerns and diminished work productivity, became social problems, likely due to increased use of hard liquor (35-50%) as opposed to beer (5-8%) and wine (8-20%) (Chaftetz, 2011).

The protection of the health of populations by preventing and reducing the harmful use of alcohol is a public health priority, and one of the objectives of the World Health Organization (WHO) is to reduce the health and social burden caused by the harmful use of alcohol. The Global strategy to reduce the harmful use of alcohol defines "harmful use" as drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, as well as the patterns of drinking that are associated with increased risk of adverse health outcomes (WHO, 1992). Alcohol consumption can have an impact not only on the incidence of diseases, injuries and other health conditions, but also on the course of disorders and their outcomes in individuals. Alcohol-related harm is determined, apart from environmental factors, by three related dimensions of drinking: the volume of alcohol consumed the pattern of drinking and, on rare occasions, also the quality of alcohol consumed (Rehm, Lachenmeier & Kanteres, 2010; WHO, 2010).

Alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries. The harmful use of alcohol causes a large disease, social and economic burden in societies. According to the WHO, (as cited in Lim, Vos, Flaxman, Danaei, Shibuya & Adair-Rohani, 2012), about 3.3 million deaths, or 5.9 % of all

global deaths, were attributable to alcohol consumption in the year 2012. The harmful use of alcohol can also result in harm to other people, such as family members, friends, co-workers and strangers. Moreover, the harmful use of alcohol results in a significant health, social and economic burden on society at large. Alcohol consumption is a causal factor in more than 200 disease and injury conditions (WHO, 1992). Drinking alcohol is associated with a risk of developing such health problems as alcohol dependence, liver cirrhosis, cancers and injuries (WHO, 2004; Shield, Parry & Rehm, 2013).

The latest causal relationships suggested by research findings are those between alcohol consumption and incidence of infectious diseases such as tuberculosis and HIV/AIDS (Baliunas, Rehm, Irving, & Shuper, 2010) as well as between the harmful use of alcohol and the course of HIV/AIDS (Hendershot, Stoner, Pantalone, & Simoni, 2009; Azar, Springer, Meyer, & Altice, 2010). Alcohol consumption by an expectant mother may cause fetal alcohol syndrome and pre-term birth complications. A variety of factors have been identified at the individual and the societal level, which affect the levels and patterns of alcohol consumption and the magnitude of alcohol-related problems in populations. Environmental factors include economic development, culture, availability of alcohol, and the comprehensiveness and levels of implementation and enforcement of alcohol policies.

For a given level or pattern of drinking, vulnerabilities within a society are likely to have similar differential effects as those between societies. Although there is no single risk factor that is dominant, the more vulnerabilities a person has, the more likely the person is to develop alcohol-related problems as a result of alcohol consumption.

The impact of alcohol consumption on chronic and acute health outcomes in populations is largely determined by two separate but related dimensions of drinking: the total volume of alcohol consumed, and the pattern of drinking. The context of drinking plays an important role in occurrence of alcohol-related harm, particularly associated with health effects of alcohol intoxication, and, on rare occasions, also the quality of alcohol consumed. Alcohol consumption can have an impact not only on the incidence of diseases, injuries and other health conditions, but also on the course of disorders and their outcomes in individuals. There are gender differences in alcohol-related mortality, morbidity, as well as levels and patterns of alcohol consumption. The percentage of alcohol-attributable deaths among men amount to 7.6 % of all global deaths compared to 4.0 % of all deaths among women. Total alcohol per capita consumption in 2010 among male and female drinkers worldwide was on average 21.2 litres for males and 8.9 litres of pure alcohol for females.

The health, safety and socioeconomic problems attributable to alcohol can be effectively reduced and requires actions on the levels, patterns and contexts of alcohol consumption and the wider social determinants of health. A variety of factors have been identified at the individual and the societal levels, which affect the magnitude and patterns of consumption and can increase the risk of alcohol use disorders and other alcohol-related problems in drinkers and others (Shi & Stevens, 2005; Room et al., 2010).

Environmental factors such as economic development, culture, availability of alcohol and the level and effectiveness of alcohol policies are relevant factors in explaining differences in vulnerability between societies,

historical trends in alcohol consumption and alcohol-related harm (WHO, 2007; Room et al., 2010; Nelson, Jarman, Rehm, Greenfield, Rey, & Kerr, 2013). For a given level or pattern of drinking, vulnerabilities within a society are likely to have many of the same differential effects as those for differences between societies. Many of these differences are mitigated, but not entirely removed, by the universal availability of health care within the society. Where there is unequal access to treatment or other resources, the health and social consequences of a given level or pattern of drinking are also likely to be more severe for those with less resources (Blas & Kurup, 2010; WHO, 2007).

Although there is no single risk factor that is dominant, the literature suggests that the more vulnerability a person has, the more likely the person is to develop alcohol problems (Schmidt, Makela, Rehm, & Room, 2010). From a public health perspective, vulnerability denotes susceptibility to poor health or illness, which can be manifested through physical, mental and social outcomes, including alcohol-related problems. It has been shown that vulnerable individuals are often at greater risk of having more than one individual risk factor, e.g., unhealthy diet, lack of physical activity and tobacco use.

Alcohol abuse, according to the Diagnostic and Statistical Manual of Mental Disorders fourth edition text revision (DSM-IV-TR, American Psychiatric Association [APA], 2000), is a diagnosis related to a "maladaptive pattern of substance use which results in clinically significant impairment or distress" (p. 199). The diagnostic criteria are based on the ways by which alcohol use patterns interfere with general life functioning. They include continued alcohol use despite disruptions to work, school, relationships, and

legal troubles. Alcohol abuse requires fewer symptoms for a diagnosis than does alcohol dependence, and alcohol abuse can only be given as a diagnosis if the patient does not meet criteria for alcohol dependence. The maladaptive pattern of drinking, leading to clinically significant impairment or distress is manifested by at least one of the following:

1. Recurrent use of alcohol resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to alcohol use; alcohol-related absences, suspensions, or expulsions from school; neglect of children or household) Recurrent alcohol use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by alcohol use).
2. Recurrent alcohol-related legal problems (e.g., arrests for alcohol-related disorderly conduct).
3. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol (e.g., arguments with spouse about consequences of intoxication).

People who drink can become habituated to the use of alcohol under certain circumstances. For example, they may develop the habit of drinking to relieve stress or drinking heavily when out with certain friends. Habituation is a kind of psychological dependence, but it is not the same as physical dependence. Psychological dependence is learned and does not fit with the medical criteria of dependence (Doweiko, 1996; Ogilvie, 2001). A person who feels the need to have one drink every day after work to unwind is psychologically habituated or dependent on that drink.

Being psychologically dependent on one drink is not a problem. But the person who is habituated to getting drunk whenever they feel stressed has a problem. People who are physically dependent lose the physical need for alcohol after only a few days of withdrawal. However, they may resume problem drinking because of habituation that is triggered by certain cues. Cues are psychological or environmental events the person has learned to use as reasons for drinking. Cues can be anything: seeing a certain friend, arguing with the spouse, feeling anxious, and thinking about past abuse among others.

The term addiction is, therefore, often applied to describe this psychological habituation. Peele and Brodsky's definition of addiction, as cited in Ogilvie (2001) is: "a habitual response and a source of gratification or security" p.77. It is a way of coping with internal feelings and external pressures. A person is vulnerable to addiction when that person feels a lack of satisfaction in life, an absence of intimacy or strong connections to other people, a lack of self-confidence or compelling interests, or a loss of hope.

Worldwide consumption of alcohol in 2010 was equal to 6.2 litres of pure alcohol consumed per person aged 15 years or older, which translates into 13.5 grams of pure alcohol per day. A quarter of this consumption (24.8%) was unrecorded, i.e., homemade alcohol, illegally produced or sold outside normal government controls. Out of the total recorded alcohol consumed worldwide, 50.1% was consumed in the form of spirits. In all WHO regions, females are more often lifetime abstainers than males. There is a considerable variation in prevalence of abstention across WHO regions. Worldwide, about 16.0% of drinkers aged 15 years or older engage in heavy episodic drinking. In general, the greater the economic wealth of a country, the

more alcohol is consumed and the smaller the number of abstainers. As a rule, high income countries have the highest alcohol per capita consumption (APC) and the highest prevalence of heavy episodic drinking among drinkers (WHO, 2014).

In 2012, 139 million DALYs (disability-adjusted life years), or 5.1% of the global burden of disease and injury, were attributable to alcohol consumption (WHO, 2014). Ghana's population is estimated at 24,658,823 with a majority (61.7%) aged 15 years and above (Population and Housing Census, 2010). 51% of Ghana's population lives in urban areas. It is estimated that 76.7% of Ghanaians aged 15 years and above are either lifetime abstainers or have abstained from drinking alcohol in the past 12 months. Recorded per capita consumption (15 years and above) stands as follows beer - 30%, wine – 10%, Spirits – 3%, others (locally brewed) – 57%. Per capita consumption of pure alcohol among heavy drinkers stood at 20 litres in 2016. This implies the need for special strategies to tackle production, sale and consumption of locally brewed alcohol in addition to strategies for the formal industry (WHO; cited in Ministry of Health [MoH], 2016).

The twelve – Step Facilitation treatment

Twelve-Step Facilitation Treatment (TSFT) is a brief, structured, and manual-driven approach to facilitating early recovery from alcohol abuse, alcoholism, and other drug abuse and addiction problems. TSFT is implemented with individual clients over 12 to 15 sessions. The intervention is based on the behavioural, spiritual, and cognitive principles of Twelve-step fellowships such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA).

These principles include acknowledging that willpower alone cannot achieve sustained sobriety, that surrender to the group conscience must replace self-centeredness, and that long-term recovery consists of a process of spiritual renewal (NREPP, 2008). The therapy focuses on two general goals: (1) acceptance of the need for abstinence from alcohol and other drug use and (2) surrender, or the willingness to participate actively in 12-step fellowships as a means of sustaining sobriety. The TSFT counsellor assesses the client's alcohol or drug use, advocates abstinence, explains the basic 12-step concepts, and actively supports and facilitates initial involvement and ongoing participation in AA. The counselor also discusses specific readings from the AA/NA literature with the client, aids the client in using AA/NA resources in crisis times, and presents more advanced concepts such as moral inventories.

Motivational Interviewing Therapy

This is a well-known recovery technique used among alcoholics. Motivational interviewing (MI) is a client-centered, directive approach to enhance intrinsic motivation for behaviour change by working with and resolving ambivalence (Miller & Rollnick, 2002; Rollnick & Miller, 1995). Motivational interviewing is a therapy based on principles of motivational psychology and is designed to produce rapid internally motivated change. Originally developed to work with problem drinkers (Miller, 1983), MI has now been used and tested with a broad range of health behaviours. This treatment strategy does not attempt to guide and train the client, step by step, through recovery, but instead employs motivational strategies to mobilize the client's own resources. MI consists of four carefully planned and individualized treatment sessions.

The first two sessions focus on structured feedback from the initial assessment, future plans and motivation for change. The final two sessions at the midpoint and end of treatment provide opportunities for the therapist to reinforce progress encourage reassessment and provide an objective perspective on the process of change (NIAA, 1992).

University students

University students and more specifically, in the context of this study, undergraduate students are students from the various second cycle institutions in the country who progress to the tertiary level. There are studies however, that shows students at the second cycle level engage in alcohol consumption. For instance, in a study conducted by the WHO in collaboration with the MoH in the year 2003 indicated that, the average age at first use of substances ranged between 14-19 years, with extremes of 6 and 23 years. The findings indicated that, substances most commonly used by the youth included alcohol, cigarette, cannabis, cocaine, tranquilizer and heroine and more common either at the school or at home. Some of the reasons given for alcohol and drug use among the youth centered on the perceived benefits, such as enabling them to study, to do hard work, to get rid of shyness, and to forget about their problems; for curiosity, for fun, and due to peer pressure (WHO, 2003b).

Statement of the Problem

The inclusion of harmful use of alcohol as an indicator under the health goal in the UN 2030 Agenda for Sustainable Development, further illustrates the importance of harmful use of alcohol as a developmental issue (WHO, 2017). The abuse of alcohol is an issue of major national and international public health concern and can bring significant harm and burden

to family members, resulting in increased use of health and social care services and resources (National Center on Addiction and Substance Abuse [(NCASA], 2007). Despite the large health, social and economic burden associated with harmful use of alcohol, it has remained a relatively low priority in public policy, including in public health policy. However, recent international policy frameworks and action plans, such as the WHO Global strategy to reduce the harmful use of alcohol and the WHO Global action plan for the prevention and control of Non-Communicable Diseases (NCDs) 2013–2020 and the Ghana national alcohol policy are expected to shift the political compass.

Public health problems related to alcohol consumption are substantial and have a significant adverse impact on the whole of society. Intoxication and the chronic effects of alcohol consumption can lead to permanent health damage (e.g. fetal alcohol syndrome, delirium tremens), neuropsychiatric and other disorders with short- and long-term consequences, social problems (e.g. unemployment and violence) and trauma or even death (e.g. road traffic accidents). There is also increasing evidence linking alcohol consumption with high-risk sexual behaviour and infectious diseases such as tuberculosis and HIV. The alcohol-attributable burden of disease is increasing in the African Region, with an estimated total of deaths attributable to harmful use of alcohol of 2.1% in 2000, 2.2% in 2002 and 2.4% in 2004 (Rehm, 2009). According to Jennigen (2008), both leading alcoholic beverage producers and the WHO recognize that alcohol abuse and alcohol dependency are significant public health problems. Although differences certainly exist in views about the relative importance of health benefits of moderate drinking or definitions of

what might be called harmful drinking, there is agreement that irresponsible and excessive alcohol consumption can lead to adverse health and social consequences, both in the short and long term.

It is unlikely that countries will ever be able to "treat their way out" of the problems caused by harmful use of alcohol (Babor, 2010). Nonetheless, provision of treatment is the ethical responsibility of societies that make potentially addictive products such as alcoholic beverages widely available. And a growing body of research on brief interventions has demonstrated the promise these hold for lower cost and effective interventions with many drinkers (O'Donnell et al., 2014). A key area of common concern relates to alcohol consumption by young people and students for that matter, which has been perceived in developed and developing countries as a critical problem. Reduction of the public health problems caused by the harmful use of alcohol and of the required interventions by governments and researchers to control alcohol related harm are essential in improving the health of the populations in the nation.

According to the WHO (2014), about 3.3 million deaths, or 5.9% of all global deaths, were attributable to alcohol consumption in 2012 alone. There are significant sex differences in the proportion of global deaths attributable to alcohol, for example, in 2012 7.6% of deaths among males and 4.0% of deaths among females were attributable to alcohol. In the same year, it was established that, 23.3% of Ghana's population (aged 15years and above) take alcohol. It was also estimated that 2.1% of the population engage in heavy drinking among the same age group (15 years and above) (WHO; cited in MoH, 2016).

Meding, (2012) opined that, many young people first consume alcohol after entering college and that most of them experience heavy drinking during college. Osei-Bonsu (2017), in a study to investigate the prevalence of alcohol consumption and factors influencing alcohol use among the Youth in the Volta Region found out that, alcohol consumption among the youth was 43% and added that both males and females engage in alcohol use but more males were found to use alcohol than females. Oti-Boateng (2016) in a study involving 400 University of Ghana students, (level 100 to 400) found out that, the proportion of students who consumed alcohol stood at 25.81%.

Again, there are three main direct mechanisms of harm caused by alcohol consumption in an individual. These three mechanisms are: toxic effects on organs and tissues; intoxication, leading to impairment of physical coordination, consciousness, cognition, perception, affect or behaviour; dependence, whereby the drinker's self-control over his or her drinking behaviour is impaired (Rehm et al., 2003; WHO, 2007). So on one hand, there is enough evidence to suggest that, there is alcohol consumption and more so, risky consumption among university students in Ghana. On the other hand, there is evidence that, alcohol is dangerous to the human body.

If one juxtapose these factors to the fact that, universities are major hub for talents and skills development and mobilization for national human resource, and not forgetting that, corporate institutions and industries engage university graduates at the floor, middle and top levels to occupy different roles and make critical decision, then it goes to suggest that, any behaviour among this category of people that can mar their full functioning or lower their

productivity is problem enough that ought to be investigated and workable solutions proffered.

More specifically, the research problem, however, is that, despite a vast literature on alcohol consumption in Ghana, the studies perused are either focused on levels of alcohol consumption, factors influencing alcohol consumption, alcohol prevalence rate among the youth and women or its impact on socio-economic development. In other cases, the focus has been on socio-cultural factors influencing alcohol consumption, the chronic disease conditions related to alcohol consumption and alcohol use in special populations which are all descriptive in nature. Examples of the descriptive studies sighted are Osei-Bonsu (2017), Oti-Boateng (2016). The indigenous literature perused on the phenomenon appeared to be survey oriented. They only sought to describe the issue without hands on interventions.

These notwithstanding, the problem of risky alcohol consumption still exist among the youth in our university campuses, and since we need to save our human resource, the youth and for that matter the students, the development and implementation of an intervention among university students is a timely needed response which when found to be effective can be replicated to avert individual and societal problems attributed to alcohol consumption. This is the gap in the literature that this current study sought to fill. The study was based on the following assumptions:

1. Behaviour change is a process that unfolds over time through a sequence of stages.
2. Helping people set realistic goals, like progressing to the next stage, will facilitate the change process.

3. Specific principles and processes of change need to be emphasized at specific stages for progress through the stages to occur.
4. Health is the priority of most students.
5. Counselling can facilitate behaviour change.

Purpose of the Study

The literature on the phenomenon perused point to the fact that indeed, the issue of alcohol consumption among students exists and there are quite a number of studies to that effect. However, the literature has not yet revealed an intervention study that puts the twelve-step and the motivational interviewing treatments to test their effectiveness among undergraduate university students in Ghana. The purpose of this study therefore, was to ascertain the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among university students who consume risky and abuse levels of alcohol consumption.

The specific objectives of the study were to:

1. ascertain the effects of the twelve-step facilitation and motivational interviewing treatments on the alcohol consumption among university students in the Central Region, Ghana.
2. investigate the influence of gender on alcohol consumption among participants in the experimental groups
3. determine the influence of age on the alcohol consumption among participants in the experimental groups
4. investigate the influence of religion on the alcohol consumption among participants in the experimental groups

Research Hypotheses

H_O1: There is no significant effect of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among participants

H_A1: There is significant effect of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among participants.

H_O2: There is no significant difference in alcohol consumption among participants in the experimental groups with regard to gender.

H_A2: There is a significant difference in alcohol consumption among participants in the experimental groups with regard to gender

H_O3: There is no significant difference in alcohol consumption among participants in the experimental groups on the basis of age

H_A3: There is significant difference in alcohol consumption among participants in the experimental groups on the basis of age

H_O4: There is no significant difference in alcohol consumption among participants in the experimental groups on the basis of religion

H_A4: There is significant difference in alcohol consumption among participants in the experimental groups on the basis of religion

Significance of the Study

The study will be useful to stakeholders such as Counsellors, Psychotherapists, Clinical Psychologists, Social Workers, and all behaviour modifiers such that, they will be brought to terms with the effects of the twelve-step facilitation and motivational interviewing treatments when it comes to risky and abusive alcohol consumption.

The study will also help university students to benefit from it by having their risky and abusive alcohol behaviour reduced significantly through the therapeutic approaches used for the intervention. Hall and academic Counsellors could use the treatment plans developed in the course of this study as a contemporary treatment plans in handling alcoholism among university students.

Also, the study will help behaviour modifiers at various rehabilitation centres and alcohol recovery centres to unravel the level of effectiveness of the twelve-step facilitation and motivational interviewing processes by familiarizing themselves with the steps and processes used in the study. Counsellors and clinical psychologists at these facilities will be further exposed to the procedures and steps to follow in using the two treatments and the workable treatment plans to adopt for counselling clients with alcoholism. Other stakeholders such as parents, religious leaders, youth leaders, state agencies such as the National Youth Authority will also be exposed to the benefits through special sharing forum to be organized by the researcher at the end of the study to share the findings and make abridged version of the report available for their consumption and probably inform policy decision. The study will also serve as literature to other researchers who might want to delve further into the phenomenon; especially those might want to do an intervention study.

Delimitations

Although there are different levels of alcohol consumption, i.e. healthy, risky, abuse and dependence, only two levels (risky and abuse) were considered. Moreover, the study was approached quantitatively only using the

quasi-experimental design. Qualitative perspectives were not explored. Again, the study was delimited in geographical scope with a focus on public universities in Ghana, Central Region to be precise. Private Universities were not considered. Finally, the study focused on undergraduate students leaving out the postgraduate students. Although there are other categories of undergraduate students, only regular undergraduate students were used for the study. Distance and Sandwich undergraduate students were not considered.

Limitations

The study, although is an experimental study, it was not a true experimental study; it was a quasi-experimental study. It is, therefore, likely that it was open to some of the weaknesses and limitations of a quasi-experimental study, even though steps were taken to limit the influences.

Definition of Terms

Alcohol – A psychoactive substance with dependence producing properties

Risky consumption – The level of alcohol consumption within 8-15 scores per the Alcohol Consumption Inventory (A.C.I.) rating

Abusive consumption - The level of alcohol consumption within 16-19 scores per the A.C.I. rating

Twelve-step facilitation – a counselling technique with twelve stages used to counsel drug addicts in rehabilitation

Motivational interviewing treatment – a brief counselling technique used for clients who must desire change in order to experience same

Counselling – A helping relationship between a trained professional and an individual or a group of people beset with an issue where the professional uses professional skills to help the individuals come out of their issue

Relapse – A form of spontaneous recovery that involves reoccurrence after a period of abstinence

Sobriety – continued abstinence from alcohol and psychoactive drug use

Organization of the Study

The study was organized into a five-chapter format. Chapter one catered for the introduction of the study which sought to give a background to the study, the problem statement, the purpose of the study, research hypotheses, the delimitation and limitation of the study. Chapter two covered three main sub-headings i.e. theoretical review, empirical review and the conceptual framework to review related literature and put the study into a framework. Chapter three dealt with the research methods for the study. It highlighted the research design, population, sample and sampling procedures used. The others included data collection instrument, data collection procedure and how data collected was analyzed. Chapter four of the study enumerated the major findings of the study and discussion of the results. Chapter five is the concluding chapter which covered the summary, conclusion, recommendations of the study and suggested areas for further research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The study sought to determine the efficacies of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among university students in the Central Region, Ghana. This chapter outlined literature review including web-based and published materials concerning alcohol abuse theories, research and evaluation studies, and current best practices and recommendations. Information gathered also included research-based books and articles, historical documents, government reports and publications, and information and discussion papers by relevant agencies and associations. The elements in this chapter were organized under three themes; conceptual view with a conceptual framework, theoretical review and empirical review.

Conceptual Review

A conceptual framework is a written or visual presentation that "explains either graphically, or in narrative form, the main things to be studied the key factors, concepts or variables and the presumed relationship among them" (Miles & Huberman, 1994, p.18). Twelve-Step Facilitation Treatment (TSFT) Twelve-Step facilitation remains a commonly recommended and used treatment modality for various types of addiction. According to the Substance Abuse and Mental Health Services Administration (SAMSHA) in its National Survey of Substance Abuse Treatment Services from 2013, twelve-step models are used, at least occasionally, by approximately 74 percent of treatment centers.

The facilitation program is intended for use in brief individual outpatient treatment for persons who satisfy the criteria for a diagnosis of alcohol dependence and abuse. The program described here is intended to be consistent with active involvement in Alcoholics Anonymous. It assumes that alcoholism is a progressive illness that affects the body, mind, and spirit for which the only effective remedy is abstinence from the use of alcohol. It adheres to the concepts set forth in the "Twelve Steps and Twelve Traditions" of Alcoholics Anonymous. This treatment program has two major goals, which relate directly to the first three Steps of Alcoholics Anonymous.

Acceptance by patients that they suffer from the chronic and progressive illness of alcoholism, acceptance by patients that they have lost the ability to control their drinking, acceptance by patients that, since there is no effective cure for alcoholism, the only viable alternative is complete abstinence from the use of alcohol, acknowledgment on the part of the patient that there is hope for recovery (sustained sobriety) but only through accepting the reality of loss of control and by having faith that some Higher Power can help the individual whose own willpower has been defeated by alcoholism and acknowledgment by the patient that the fellowship of AA has helped millions of alcoholics to sustain their sobriety and that the patient's best chances for success are to follow the AA path (Baker, Daley, Donovan & Floyd, 2007).

Central Assumptions of Twelve-Step Facilitation Treatment (TSFT) The TSF is a treatment is underpinned by some central assumptions. These include: that addiction is a multi-faceted illness influenced by medical, social, emotional, and spiritual factors, consistent with twelve-step mutual-help organization philosophy, abstinence is the most pivotal, though not the only

facets of recovery from substance use disorder. Emotional and, in some cases, spiritual growth are also critical recovery processes, that Alcohol Anonymous (AA) participation will help patients/clients achieve and sustain recovery over the long-term, that will be effective only insomuch as the provider helps engage the patient with AA and other 12-step mutual-help organizations and a skillful clinical provider or therapist can help the patient address practical and attitudinal obstacles to AA attendance.

Alcoholics Anonymous (AA) originated the idea for the Twelve-Step model in 1938, when founder Bill Wilson wrote out the ideas that had been developing through his experience with and vision of alcoholism. He wrote about the positive effects experienced when people struggling with alcoholism shared their stories with one another. Wilson wrote his program in what has become known as the *Big Book*. As explained in historical information from the AA site itself, the steps were developed through synthesizing concepts from a few other teachings he had encountered, including a six-step program espoused by an organization called the Oxford Group. In their original form, the Twelve-Step came from a spiritual, Christian inspiration that sought help from a greater power as well as from peers suffering from the same addiction struggles. The *Big Book* was originally written as a guide for people who couldn't attend AA fellowship meetings, but it soon became a model for the program in general. It has since been adopted as a model for a wide range of addiction peer-support and self-help programs designed to help drive behavioural change. In addition to the original Alcoholics Anonymous (AA) group, various offshoots now exist, such as Narcotics Anonymous (NA), Heroin Anonymous (HA), and Gamblers Anonymous (GA) (AAC, nd).

Evidence for twelve-step facilitation

1. The evidence for Twelve-Step Facilitation (TSF) interventions in the treatment of alcohol use disorder is strong. Twelve-Step Facilitations (TSFs) produce outcome benefits as good as or possibly better than other active treatments. It is particularly helpful and has clearer advantages when it comes to increasing rates of continuous abstinence and full sustained substance use disorder remission (i.e., absence of symptoms for 12 months). Whether one type of TSF is advantageous over another is uncertain. While there is sound reason to assume Twelve-Step Facilitation (TSF) approaches also work for individuals with other drug use disorders, evidence for drug use disorder populations (other than alcohol) is more limited (Kaskutas, Subbaraman, Witbrodt, & Zemore, 2009).

The twelve steps of Alcoholics Anonymous (AA)

1. We admitted we were powerless over alcohol that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.

9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs (AA, nd).

Having read the literature and taking into consideration the concepts and variables of the study, this researcher is of the view that, the clients' disposition is key and will influence to a large extent the level of progress the counsellor can make with the interventions. Cohen and Inaba (2011) states that the relationship between alcoholism and cognition can be defined as, "alcohol addiction relates to a person's cognition, decision making, and processing of short-term memory" (p. 77). The counselling approach therefore ought to meet this cognitive dimension by seeking to work on the client, where he or she can come to terms with making the decision to change.

Additionally, the approach should include specific evidence based interventions and strategies that has been tried and tested. This notwithstanding, the therapeutic orientation is not as important as the therapeutic relationship. The therapeutic relationship is the most active ingredient in change. While a significant advantage of one form of therapy over another is yet to be found, research has been able to demonstrate the

fundamental importance of the therapeutic relationship. A sound therapeutic relationship provides an avenue to communicate respect, understanding, warmth, acceptance, commitment to change and a corrective interpersonal experience. A number of counsellor qualities have also been found to be associated with improved outcomes. They include the ability to develop a therapeutic alliance, the extent to which the counsellor remains true to the techniques of their therapeutic philosophy, and the extent to which the counsellor is judged to be well adjusted, skilled and interested in helping their clients (Luborsky, McLellan, Woody, O'Brien, & Auerbach, 1985).

These sorts of findings led Mattick, Oliphant, Ward, and Hall (1998) to argue that the counsellor is largely responsible for the extent to which a client resists therapy, and client resistance, in turn, tends to be associated with poor progress in therapy. They proposed that two important qualities contribute to the effectiveness of a counsellor. One is the ability to establish a therapeutic alliance relatively quickly, and the other is the skills and specialist knowledge about how to manage the relationship once it has been established. They argue that it is this level of skill and ability to work on a process level that may be the most important variable when working with more disturbed clients.

According to Ackerman and Hilsenroth (2003), those counsellors who are most effective at establishing a strong therapeutic relationship tend to be flexible, honest, respectful, trustworthy, warm, confident, interested and open. Motivational Interviewing Motivational Interviewing (MI) is described in the literature as: “a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” (Miller & Rollnick, 2002, p. 25).

While personalized feedback, including social norms data, is an important element of the alcohol treatment, the framework for interacting with students is primarily that of motivational interviewing (MI). Inherent in this description is the notion that MI is not a set of tools so much as it is a method of being with the client designed to elicit his or her own change process. With MI, the counsellor respects the individual's autonomy and understands that the decision to change or not to change rests with the client. Similarly, the counsellor takes the role of a collaborator who tries to elicit motivation to change from the client, rather than a hierarchical professional arrangement wherein the counsellor imparts wisdom on the subordinate client. In a general sense, MI can be understood as consisting of four major guiding principles: expressing empathy, developing discrepancy, rolling with resistance, and supporting self-efficacy.

With regard to the principle of expressing empathy, it is the counsellor's attempt to "understand the client's feelings and perspectives without judging, criticizing, or blaming" (Miller & Rollnick, 2002, p. 37). The attitude of understanding promotes the relationship, client self-esteem, and motivation to change. It should also be noted that understanding and even acceptance are distinct from agreement or approval, and it is possible for a counsellor to accept a client's behaviour without condoning it. One way that MI differs from Rogerian, client-centered therapy is that it is intentionally directive (Miller & Rollnick, 2002). The directive nature of the interaction is produced using the second guiding principle, developing discrepancy. The counsellor helps one to perceive and reflect upon a discrepancy between one's current lifestyle and one's desired life.

As resistance arises in the face of change, the counsellor employs the third principle, rolling with resistance. The counsellor will not argue against the resistance, as this may cause the client to argue back and reinforce the reluctance to change. Rather, the counsellor will acknowledge the difficulty and recruit the client in the problem-solving process. The final principle, supporting self-efficacy, is accomplished by building the client's confidence and establishing the clinician as a helper (rather than the author) of the client's recovery. Miller and Rollnick (2002, p.36) describe four main principles that are essential in motivational interviewing:

Express Empathy: This helps build a trusting relationship (respect, acceptance of what the client says and how she/he sees things, understanding of feelings and circumstances, encouragement of expression of thoughts and feelings, with no counsellor judgment).

Develop Discrepancy: The counsellor helps clients who believe they do not have a problem to see that the belief does not fit with the facts of their lives. An example: the client says alcohol is not a problem he has a job; his girlfriend does not mind his drinking, etc. But he also mentions that he is off work a couple of days a week because of hangovers and he and his girlfriend have been arguing a lot. The counsellor would ask some non-confrontational questions related to those events, which encourage the client to think about the situations and the possible role of alcohol. But the client needs to make the connections him or herself.

Roll with Resistance: If the client denies problems though they may be obvious or resists looking at behaviour, the counsellor should not argue. Instead, the counsellor should eventually, gently turn that resistance back in a

way that gets the client thinking again. (E.g., "OK, I know what you're saying. But there's something you mentioned last time that I don't understand. . . . Can you tell me more about . . . ?")

Support Self-Efficacy: The counsellor should always make it clear that clients have the ability to make the changes they want, have control over their lives and have personal strengths and resources that make them capable. The counsellor believes in the client and the client learns to believe in him or herself. Once clients themselves have decided that they may need to do something about their problem, the counsellor and client can move to the next stage, making a plan.

Motivational interviewing is an important part of all helping strategies, from brief counselling to residential treatment. A critical assessment of the independent variables for the study being the twelve step facilitation process and motivational interviewing, points out to cognitive oriented interventions where the counsellor will virtually have to assist the clients to see reason, be motivated and inspired to adjust a behaviour. The dependent variable, alcohol consumption, on the other hand, will be altered based on how skillful the client is able to make an efficient use of evidence based and appropriate intervention approach. The researcher's framework therefore is that, it is significant to situate the intervention in a therapeutic approach but even more significant is the therapeutic relationship the facilitator or counsellor adopts that will greatly affect the expected result or achievement. More so, the clients' social environment and emotions will have an effect on the therapists approach and relationship. If the relationship is built on flexibility, honesty, respect, trustworthiness, warmth, confidence and openness coupled with

appropriate and evidence based therapeutic approach and strategy, the client is more likely to open up, be committed and take an action of change. If the relationship is without the above mentioned techniques, the clients are likely to pull out of treatment or resist change. The researcher therefore conceived the phenomenon as per below.

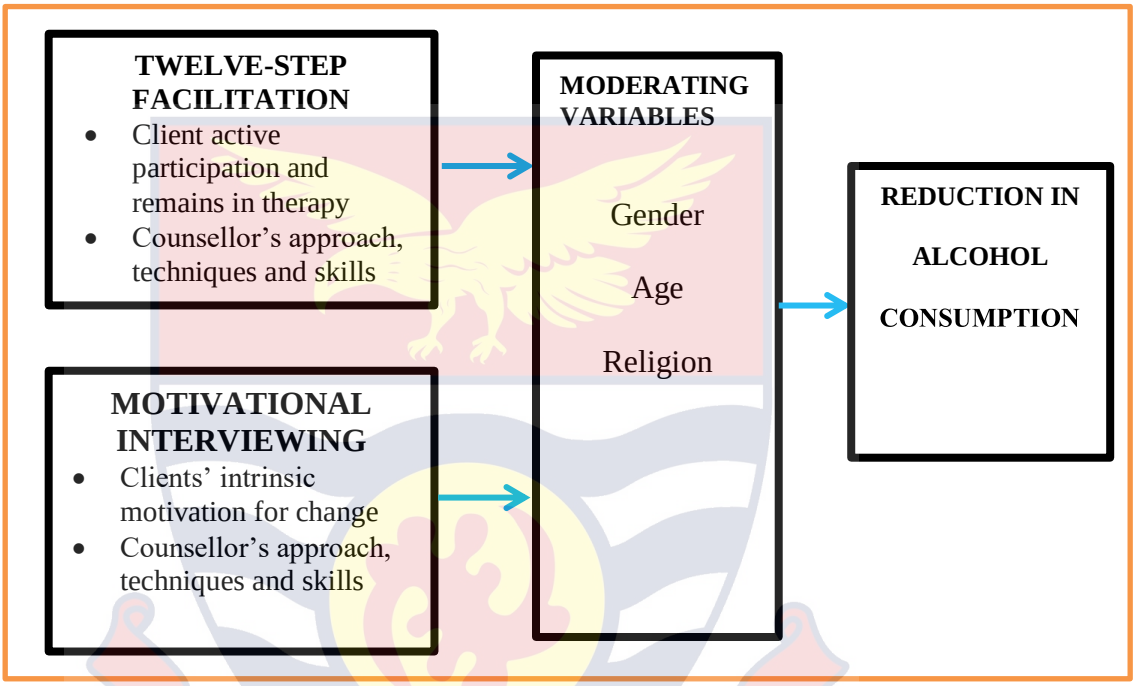


Figure 1: Diagram illustrating the Conceptual Framework

Figure 1 shows one block (twelve-step facilitation - as one of the independent variables) at the top left hand side with descriptions: clients' active participation and remains in therapy and counsellor's therapeutic approach, techniques and skills. Beneath that is another block (motivational interviewing as another independent variable) with the description: clients' intrinsic motivation for change and counsellor's approach, techniques and skills. The two independent variables are followed by another block at the middle (moderating variables) with gender, age and religion.

On the extreme right hand side is another block indicating the dependent variable (reduction in alcohol consumption).

The first independent variable (twelve-step facilitation) with counsellor's therapeutic approach, technique and skills, is to depict that, for the treatment of risky alcohol to be effective, the counsellor must adopt evidence based therapeutic approach that will guide the treatment process, hence, the techniques and skills of the counsellor are a major factor. That is to say, there is the need for the counsellor or therapist to have knowledge of the therapeutic approach of the twelve-step and be trained or have an experience in using the approach.

The clients' ability to participate and remain in the treatment cannot be overemphasized. The cognition of the clients and ability to follow the process of the approach is important. Additionally, the clients' cognitive and spiritual dispositions are also relevant to the twelve-step facilitation. Consequently, the therapeutic approach, techniques and skills, become the anchor to the therapeutic relationship. In other words, therapeutic approach will have to be anchored by the therapeutic relationship to achieve any meaning and successful engagement. It is the relationship that will give relevance to the approach. The therapeutic relationship is about the qualities of the counsellor and the skills he or she adopts in relating with the clients. A counsellor who is able to build and establish a good rapport with the clients, explain the treatment goal, adopt warmth, respect, openness and non-judgmental techniques is more likely to move the clients emotionally and cognitively and be willing to remain in therapy.

Similarly, with the motivational interviewing, successful outcomes are dependent on the counsellor's ability to elicit the clients' intrinsic motivation for change. How the counsellor is able to competently manipulate the therapeutic relationship is what can influence the clients to desire a change of behaviour. If the client feels disrespected, lord over or being imposed upon, he or she is likely to withdraw from the treatment or close- up and will not be motivated to change. The success or failure of the motivational interviewing treatment or intervention begins with the therapeutic approach used, but more importantly, how the therapeutic relationship is used to inspire, influence, motivate and lead the client to a desire to change or an actual change in behaviour. Gender, age and religion were also listed as factors that can moderate between the two independent variables (twelve-step facilitation and motivational interviewing) and the dependent variable (alcohol consumption). Based on the reviewed literature and for that matter the hypotheses raised for the study, the researcher is of the view that, gender, age and religion of the participants could either strengthen or weakened the relationship between the two treatments (independent variables) and the alcohol consumption of the participants (dependent variable).

Theoretical Review

This section dealt with the theories that guided the study. Eisenhart (1991) describes a theoretical framework as "a structure that guides a researcher by relying on a formal theory constructed by using an established, coherent explanation of certain phenomena and relation". Theoretical frameworks invoke a host of values and beliefs, which are not unique to a researcher, but shared in a common paradigm with other scholars.

There are different ideas and sometimes strong disagreement about what causes alcohol problems. The biggest and most emotional controversy is between those who say the cause is an incurable, progressive, primary disease and those who say it is not a disease, but a behaviour disorder that includes different kinds of problems. A number of theories have been suggested over the years. Each one seems to make sense in some ways. However, each theory has also been shown to be inadequate in explaining all situations.

Khantzian (2001) points out that even the process and duration of abuse and dependence are not clear: For some, abuse illness takes an unrelenting devastating course with all the characteristics of a malignant disease; for others dependency on substances seems to be symptomatically related to a stressful or distressful phase of a person's life and the reliance on drugs or alcohol is transitory and a temporary aberration; and yet for others, they simply chose to stop for reasons that are not always clear. Researchers simply do not know exactly why some people develop alcohol abuse and dependence while others do not, even under similar circumstances. Human behaviour and the reasons for behaviour are complicated. Today, researchers and experts agree that, whether or not a disease is involved, alcohol abuse and dependency are based on biopsychosocial determinants, problems resulting from a complex interaction of an individual's biological, psychological, cognitive (beliefs, thoughts, learning), and environmental (social, cultural, economic etc.) factors.

Biological Theories

There is more and more research indicating that, genetic and other biological factors are involved in the development of abuse and dependence.

The World Health Organization published a thorough summary of research about the brain's role in such behaviour. There is evidence that some people, especially males who have dependent family members, may have some kind of genetic predisposition to developing problems. This does not mean the person will definitely become addicted. In fact, most people from families with alcohol problems or dependence do not develop problems.

However, he/she may have inherited certain genetic characteristics that put him/her at higher risk of developing alcohol dependency if he/she drinks heavily. Scientists do not yet understand how or why this possible genetic factor affects some individuals. (Studies of identical twins from such families show that even if one twin has alcohol problems, in half the cases, the other does not. Why does one twin develop a problem and the other does not even though their genetic inheritance is the same?). There is evidence that certain kinds of brain chemistry are involved in addictions and other compulsive behaviours in some people (WHO, 2004). For example, brain chemicals such as dopamine and serotonin seem to be especially implicated in a variety of ways. Lower levels of dopamine are related with stress. Higher levels are involved in feelings of pleasure.

Alcohol can temporarily increase dopamine, making a person feel good. He/she may then use alcohol again to get that same feeling. Frequent heavy drinking seems to interfere in normal brain function and brain chemistry. Heavy alcohol consumption, especially when combined with poor nutrition, also leads to abnormalities in the liver and pancreas, which are essential in processing vitamins, proteins and other nutrients (National Library of Medicine and National Institutes of Health, 2004).

Nutritional deficiencies lead to physical problems and can cause depression and anxiety because of chemical imbalances. These may then lead to further drinking as a way of self-medicating. There is also evidence that shows differences in the way people's bodies' process alcohol (Rotgers, Kern, & Hoeltzel, 2002). For example, it is known that women are more likely to develop serious physical problems (liver, etc.) than men and sooner. Some women seem to be deficient in a certain enzyme that is involved in metabolizing alcohol. Some studies show that certain people who eventually develop dependence are more able to handle alcohol right from the beginning. They can drink much more than other people before they show signs of drunkenness. Perhaps because they can drink more before feeling the effects, they in fact do drink more. Researchers do not fully understand what kind of genetic and biological differences are involved, how the differences lead to an increased risk of alcohol dependence, or even if they definitely do lead to abuse or dependence.

It is not just simply that there is a gene that causes alcoholism or that alcohol problems are inherited. Rather, it is likely that there may be a variety of genes, biological characteristics, and complex indirect interactions that, in combination with other circumstances, may lead to alcohol dependence in a specific individual. All researchers emphasize that biological factors alone do not fully explain abuse or addiction behaviour. Biology always combines with social, environmental, and individual psychological factors to produce behaviour. Not everyone with certain genetic or chemical characteristics develops dependence, even when personal and environmental factors are similar to the addict's.

Saying there are some biological factors underlying abuse and addiction is not the same as saying addiction is a disease (Kurtz, 2002). The biological review is important because, it gives an insight into why two people for instance exposed to similar situations or alcoholic conditions yet one gets to abuse alcohol and the other doesn't. This helps in putting the phenomenon understudy into proper context for better illumination.

Disease Theory

For more than forty years, one of the strongest beliefs among medical professionals and in alcohol treatment in North America has been the idea that addiction is a primary (caused by an inborn physical abnormality, not by some other physical or psychological problem), chronic (ongoing, always present), progressive (gets worse), incurable, physical disease that can be fatal (Alcohol Anonymous [AA] (as cited in Kurtz, 2002). The theory says those who have this innate disease cannot control their use of alcohol. When they first drink, the underlying disease is activated. The disease then leads them to drink more and more until it destroys them physically, emotionally, and spiritually.

There is no cure, it is said, but the effects of the disease can be stopped if the person stops drinking. This is the view accepted by a large number of doctors in the United States and to a lesser extent in Canada, most American and many Canadian alcohol institutions and organizations, the modern Alcoholics (Alcohol Anonymous [AA] (as cited in Kurtz, 2002).

The concept of abuse as a primary disease developed mainly as a reaction to the belief that people who were frequently and troublesomely drunk were simply bad people. Drunkenness had generally been looked at as a moral problem, sin, vice, or personal failure.

By the mid-1800s, another view was developing. It saw alcohol as a highly dangerous substance, chronically drunken people as victims unable to control their drinking and abstinence as the only answer. Out of this 1800s viewpoint grew the first self-help groups including the foundation of the later Alcoholics Anonymous (Wilson, as cited in Kurtz, 2002).

Alcohol Anonymous originally never dealt with the cause of serious drinking problems. AA founder, Bill Wilson saw it as a primarily spiritual illness that may have had some unknown physical foundations. (Allergy was one suggested explanation at the time). Wilson explained that although alcoholism was not technically a disease, he needed to use the term "disease–sick–as the only way to get across the hopelessness" (Wilson, quoted in Kurtz, 2002, p. 7). The modern disease concept was developed in the 1940s to 1960s. The description of the progressive disease of "alcoholism" that is most frequently used is the chart of stages and behaviours (Delaware Technical and Community College, 2004) that was developed by Jellinek in 1952. Jellinek himself said his disease concept was an unproven theory based on limited information, should be used carefully, and dealt with only a narrow aspect of alcohol problems. He soon enlarged his views and identified five different kinds of problem drinkers, of which only two fit into his disease model. Yet the description of those two types came to be seen as factual for all those with alcohol problems.

Despite the serious flaws in the theory and its development, this quickly became the view that was accepted and presented as fact by doctors, educators, treatment programs, and courts (Doweiko, 1996; Miller & Willoughby, 1997; Ogilvie, 2001; White, 2000).

Variations of the Jellinek chart continue to be frequently presented as the factual, definitive picture of alcohol problems. There are many who disagree with the disease model and many who say it has been damaging (Doweiko, 1996; White, Kurtz & Acker, 2001). Some of the main criticisms are:

There is no scientific evidence of a primary disease, but there is evidence that people have a variety of problems with a variety of causes. Many problem and dependent drinkers stop or control their drinking on their own, which indicates the problem is not an innate, uncontrollable, progressive disease. The disease model encourages a belief in a lack of control and beliefs influence a person's behaviour; It is especially damaging to groups like Aboriginal people who already feel like powerless victims; Drinking is a behaviour with problems developing only when the person frequently overdoes that behaviour; Genetic evidence does not show a direct and inevitable link to addiction; The disease model does not deal with variations in drinking behaviour; There is no definite model of the disease, but a variety of different, sometimes conflicting, views (e.g., primary disease vs. mental disorder). Sobell and Sobell (1993) describe the results of many well-structured studies that track people over time. The evidence shows that a minority of people (25 to 30 percent) experience progressively worse symptoms if they continue to drink.

However, most people move in and out of alcohol problems with various levels of seriousness and problem-drinking episodes are separated by periods of abstinence or non-problem drinking. In most cases, it is not possible to say definitely that a person who had an alcohol disorder in the past will

continue to have problems in the future. Although alcohol dependence seems to have biological elements in some people, the evidence is clear that it is not one kind of disease and that alcohol problem do not necessarily get worse or move along to dependence. Some experts, educators, and treatment providers now take the view that even though alcohol addiction and abuse may not truly be a disease, the idea that it can be like a disease is helpful. This viewpoint was first used in making society understand that people with alcohol problems should be able to get help. Today, some helpers explain that this belief makes it easier for some people to make sense of their behaviour and work towards change. This is related to the current study in the sense that, with this literature, the study is given a general overview of alcoholism instead of limiting it to the psychological point of view. This will go a long to enlighten counsellors to view alcoholic condition and from the broader perspective.

Psychosocial Theories

All experts, including those who believe in the disease model, agree psychological, social and environmental events are important elements in the development of problem drinking patterns. Research shows that learning has a great effect on the development of harmful drinking behaviour. People learn how to drink, what to expect from drinking and to use drinking for certain purposes. People who have experienced rules about appropriate drinking learn those rules and rituals (although they may not always use what they have learned). Those who see mostly uncontrolled drinking with the intention of intoxication learn to drink that way.

People are also shaped by the consequences of drinking. Human beings continue to behave in certain ways if they get positive consequences for the

behaviour. If a person's social group drinks heavily and she/he gets positive feedback from friends for drinking the same way, he/she will be more likely to continue the pattern. If a person gets other rewards from drinking for example, she/he is more social or less anxious she/he may also learn to use alcohol as a way of getting that reward and as a way of coping with uncomfortable and painful feelings. These positive consequences may be more emotionally powerful than negative ones like hangovers or family problems (Heath, 1995).

Habit is a learned element of drinking. People learn to use alcohol in certain situations including developing the habit of drinking heavily. People may get into the habit of drinking heavily each time they go to the bar, whereas they might not drink at all otherwise. Habit can be hard to change because it is a routine that people have developed without really thinking about it, a way of behaving that has become an automatic reaction (Heath, 1995). There is much research that shows if a person expects to be affected by alcohol a certain way; he/she will in fact experience that effect. There have been experiments showing that people can become high (that is, they act high and believe they are high) even though they drink only nonalcoholic drinks, if they believe they were drinking alcohol.

The Social Issues Research Centre (1998) describing the evidence says; there is overwhelming historical and cross-cultural evidence that people learn not only how to drink but how to be affected by drink through a process of socialization. That is, whatever behaviour people expect alcohol to produce that is how they will behave, although it is unlikely that most of us consciously realize that our beliefs are a factor in our behaviour.

Also, if people believe and expect that intoxication is a normal part of drinking, they may well drink to intoxication. If they believe they have no control over alcohol once they have a drink, they may well drink in an uncontrolled way. If people expect that alcohol leads to aggression, they may well act aggressively. Many studies show that alcohol-related violence is a learned behaviour, not a universal and automatic result of heavy drinking (Heath, 1995).

Alcohol may, however, make people less able to control anger and aggression. Cultures/societies develop attitudes, beliefs, expectations of effects and standards about alcohol use as well as ways of discouraging unacceptable use. Penalties can be legal ones such as making drunk driving a criminal offence. They can also be less structured, but highly effective negative consequences like social shunning and gossip. The greatest problems seem to arise when a society tolerates heavy drinking and drunkenness rather than having strong clear rules about acceptable and unacceptable drinking behaviour and meaningful punishments.

Subcultures are smaller groups within the main society, teenagers, friendship groups, or church members for example. Subcultures can also develop their own attitudes, rules, and expectations about drinking. For example, heavy binge drinking is often seen as normal and acceptable by college students. However, people who belong to religious groups that have strict rules against alcohol do not accept drinking at all. Some people with certain personality characteristics and in certain environmental circumstances may be at greater risk of developing alcohol problems. Examples are certain mental disorders (e.g., anxiety, depression) may be more likely to lead to

harmful alcohol use. People who have antisocial personalities (that is, they are aggressive, do not follow the rules of society, do not take responsibility for what they do, do not relate well to other people, etc.) are more likely to abuse alcohol. People whose social group drinks heavily may develop problems themselves. Highly stressful life events like isolation, violence and abuse may create a greater risk of alcohol abuse as a coping method (Single, 1999).

Finally, research also shows that substance abuse frequently occurs within a social context characterized by social and economic disadvantage. That is, people more often drink in problematic ways in situations of poverty and unemployment, low education level, unstable family conditions, unstable social environments, and lack of resources and supports (Single, 1999). The connections are complex between alcohol abuse and these other factors that affect health. But it is likely that when individuals do not have the tools to make a meaningful life, feel a lack of secure rootedness in family and society, and or do not have a sense of direction for a positive future, they may learn to use alcohol as a coping tool. This alcohol misuse then creates even more problems.

To a great extent, then, alcohol misuse and problems arise out of personal psychological factors, learned social patterns, the rewards a person gets from drinking, and the person's expectations. Harmful and disadvantaged environmental, economic, and social conditions increase the likelihood that people will develop problems. There are several main methods that have been shown to be effective in helping people change harmful drinking behaviour. These helping methods (listed here alphabetically) can be made available in communities. Some require little professional supervision.

In both treatment centre programs and community intervention programs, methods that help people think about their drinking and develop new thoughts and behaviours have been shown to be very useful. These cognitive-behavioural strategies include things such as: Learning about alcohol effects and consequences, analyzing own drinking and consequences, analyzing own drinking behaviour and trigger situations, aiming understanding about the reasons one drinks, the emotions, experiences and circumstances linked to the drinking; and learning new problem-solving, coping, interpersonal and thinking skills that lead to improved self-esteem, relationships, and competence.

Experts agree that clients need to be alcohol-free when they are assessed and making treatment plans. Assessing and planning requires the individual's participation. Research shows people do not or cannot give accurate information if they are under the influence of alcohol. This does not mean they must no longer be drinking. It just means they need to be completely sober during assessment and planning interviews (Single, 1999).

Cognitive behavioural theories

Historically, the desire for empirically-supported treatments led to testing psychotherapies in controlled clinical trials to determine their efficacy, a procedure borrowed from other medical treatments. For example, the seminal study known as the National Institute of Mental Health's Treatment of Depression Collaborative Research Program (Elkin, Gibbons, Shea, Sotsky, Waltkins, Pilkonis & Hedeker, 1995) randomized patients with major depression to cognitive therapy, interpersonal psychotherapy, or antidepressant medication, and ushered in a new era of evaluating

psychotherapies in large-scale and methodologically rigorous clinical trials. CBTs, given their empirical basis, inherent structure, and time-limited nature, were particularly well suited for testing in clinical trials. As a result, CBTs became highly manualized in an effort to ensure treatment fidelity, an important component of the internal validity of such trials (Addis & Krasnow, 2000).

Originally CBTs were more principle-driven and theory-dependent in the way that they were conceptualized and implemented (e.g., Goldfried & Davison, 1994). With the growth of clinical trials during the 1970s and 80s, however, treatment manuals began to focus more on how to implement specific CBT techniques and strategies and less on interventions derived from case conceptualization based on the ideographic assessment of the patient guided by an underlying theory.

We are unaware of data directly comparing the level of theoretical knowledge of early practitioners of behavior therapy relative to modern CBT clinicians. Cognitive behavioral therapy (CBT) can be used to treat people with a wide range of mental health problems. CBT is based on the idea that, how we think (cognition), how we feel (emotion) and how we act (behaviour) all interact together. Specifically, our thoughts determine our feelings and our behavior. Therefore, negative and unrealistic thoughts can cause us distress and result in problems. When a person suffers with psychological distress, the way in which they interpret situations becomes skewed, which in turn has a negative impact on the actions they take. CBT aims to help people become aware of when they make negative interpretations, and of behavioural patterns which reinforce the distorted thinking.

Cognitive therapy helps people to develop alternative ways of thinking and behaving which aims to reduce their psychological distress. Cognitive behavioral therapy is, in fact, an umbrella term for many different therapies that share some common elements. Two of the earliest forms of Cognitive behavioral Therapy were Rational Emotive Behavior Therapy (REBT), developed by Albert Ellis in the 1950s, and Cognitive Therapy, developed by Aron Beck.

Rational Emotive Behavior Therapy (REBT) - Albert Ellis

It is a type of cognitive therapy first used by Albert Ellis which focuses on resolving emotional and behavioral problems. The goal of the therapy is to change irrational beliefs to more rational ones. REBT encourages a person to identify their general and irrational beliefs (e.g. I must be perfect") and subsequently persuades the person challenge these false beliefs through reality testing.

Albert Ellis (1957, 1962) proposes that each of us hold a unique set of assumptions about ourselves and our world that serve to guide us through life and determine our reactions to the various situations we encounter. Unfortunately, some people's assumptions are largely irrational, guiding them to act and react in ways that are inappropriate and that prejudice their chances of happiness and success. Albert Ellis calls these basic irrational assumptions. Some people irrationally assume that they are failures if they are not loved by everyone they know - they constantly seek approval and repeatedly feel rejected. All their interactions are affected by this assumption, so that a great party can leave them dissatisfied because they don't get enough compliments.

According to Ellis, these are other common irrational assumptions:

1. The idea that one should be thoroughly competent at everything.
2. The idea that is it catastrophic when things are not the way you want them to be.
3. The idea that people have no control over their happiness.
4. The idea that you need someone stronger than yourself to be dependent on.
5. The idea that your past history greatly influences your present life.
6. The idea that there is a perfect solution to human problems and it's a disaster if you don't find it.

Ellis believes that people often forcefully hold on to this illogical way of thinking, and therefore employs highly emotive techniques to help them vigorously and forcefully change this irrational thinking.

The ABC Model

A major aid in cognitive therapy is what Albert Ellis (1957) called the ABC Technique of Irrational Beliefs. The first three steps analyze the process by which a person has developed irrational beliefs and may be recorded in a three-column table.

A - Activating Event or objective situation. The first column records the objective situation, that is, an event that ultimately leads to some type of high emotional response or negative dysfunctional thinking.

B - Beliefs. In the second column, the client writes down the negative thoughts that occurred to them.

C - Consequence. The third column is for the negative feelings and dysfunctional behaviors that ensued.

The negative thoughts of the second column are seen as a connecting bridge between the situation and the distressing feelings. The third column C is next explained by describing emotions or negative thoughts that the client thinks are caused by A.

This could be anger, sorrow, anxiety, etc. Ellis believes that it is not the activating event (A) that causes negative emotional and behavioral consequences (C), but rather that a person interpret these events unrealistically and therefore has an irrational belief system (B) that helps cause the consequences (C). The link between this theory and alcoholism can be drawn from the key concept, the ABC model. As undergraduate university students, there are challenges that come their way. Some could be financial; others may be learning difficulties or even relationship issues. These could be activating events. Based on the beliefs of the student regarding any of the above mentioned issues, the individual could develop some negatives thoughts or irrational beliefs. For instance, thoughts of low feeling or self-esteem, thoughts of despair and loss of hope could lead to consequences such as dysfunctional behaviour like alcoholism.

Cognitive Therapy - Aaron Beck

Beck's (1967) system of therapy is similar to Ellis's, but has been most widely used in cases of depression. Cognitive therapists help clients to recognize the negative thoughts and errors in logic that cause them to be depressed. The therapist also guides clients to question and challenge their dysfunctional thoughts, try out new interpretations, and ultimately apply alternative ways of thinking in their daily lives. Aaron Beck believes that a person's reaction to specific upsetting thoughts may contribute to abnormality.

As we confront the many situations that arise in life, both comforting and upsetting thoughts come into our heads. Beck calls these unbidden cognition's automatic thoughts. When a person's stream of automatic thoughts is very negative you would expect a person to become depressed (I'm never going to get this essay finished, my girlfriend fancies my best friend, I'm getting fat, I have no money, my parents hate me - have you ever felt like this?). Quite often these negative thoughts will persist even in the face of contrary evidence. Beck (1967) identified three mechanisms that he thought were responsible for depression:

1. The cognitive triad (of negative automatic thinking
2. Negative self-schemas
3. Errors in Logic (i.e. faulty information processing) The Cognitive Triad

The cognitive triad is three forms of negative (i.e. helpless and critical) thinking that are typical of individuals with depression: namely negative thoughts about the self, the world and the future. These thoughts tended to be automatic in depressed people as they occurred spontaneously. As these three components interact, they interfere with normal cognitive processing, leading to impairments in perception, memory and problem solving with the person becoming obsessed with negative thoughts.

Negative Self-Schemas

Beck believed that depression prone individuals develop a negative self-schema. They possess a set of beliefs and expectations about themselves that are essentially negative and pessimistic.

Beck claimed that negative schemas may be acquired in childhood as a result of a traumatic event. Experiences that might contribute to negative schemas include:

1. Death of a parent or sibling.
2. Parental rejection, criticism, overprotection, neglect or abuse.
3. Bullying at school or exclusion from peer group.

People with negative self-schemas become prone to making logical errors in their thinking and they tend to focus selectively on certain aspects of a situation while ignoring equally relevant information.

Errors in Logic

Beck (1967) identifies a number of illogical thinking processes (i.e. distortions of thought processes). These illogical thought patterns are self-defeating, and can cause great anxiety or depression for the individual.

1. Arbitrary interference: Drawing conclusions on the basis of sufficient or irrelevant evidence: for example, thinking you are worthless because an open air concert you were going to see has been rained off.
2. Selective abstraction: Focusing on a single aspect of a situation and ignoring others: E.g., you feel responsible for your team losing a football match even though you are just one of the players on the field.
3. Magnification: exaggerating the importance of undesirable events. E.g., if you scrape a bit of paint works on your car and, therefore, sees yourself as totally awful driver.
4. Minimization: underplaying the significance of an event. E.g., you get praised by your teachers for an excellent term's work, but you see this as trivial.

5. Overgeneralization: drawing broad negative conclusions on the basis of a single insignificant event. E.g., you get a D for an exam when you normally get straight As and you, therefore, think you are stupid.
6. Personalization: Attributing the negative feelings of others to you. E.g., your teacher looks really cross when he comes into the room, so he must be cross with you.

Strengths of CBT

1. Model has great appeal because it focuses on human thought. Human cognitive abilities have been responsible for our many accomplishments so may also be responsible for our problems.
2. Cognitive theories lend themselves to testing. When experimental subjects are manipulated into adopting unpleasant assumptions or thought they became more anxious and depressed (Rimm & Litvak, 1969).
3. Many people with psychological disorders, particularly depressive, anxiety, and sexual disorders have been found to display maladaptive assumptions and thoughts (Beck et al., 1983).
4. Cognitive therapy has been very effective for treating depression (Hollon & Beck, 1994), and moderately effective for anxiety problems (Beck & Steer, 1993).

Limitations of CBT

1. The precise role of cognitive processes is yet to be determined. It is not clear whether faulty cognitions are a cause of the psychopathology or a consequence of it.

2. Lewinsohn (1981) studied a group of participants before any of them became depressed, and found that those who later became depressed were no more likely to have negative thoughts than those who did not develop depression. This suggests that hopeless and negative thinking may be the result of depression, rather than the cause of it.
3. The cognitive model is narrow in scope - thinking is just one part of human functioning, broader issues need to be addressed.
4. Ethical issues: RET is a directive therapy aimed at changing cognitions sometimes quite forcefully. For some, this may be considered an unethical approach.

Social Learning Theory – Albert Bandura

Albert Bandura, a Canadian-American psychologist was born in Alberta, Canada, in the small town of Mundare on December 4, 1925. He was the youngest of six children, two of whom died in youth, one from a hunting accident and another from the flu pandemic. Bandura's parents were hardworking and self-educated. They instilled in him a joy for celebrating life and the importance of education. His primary education was explorative and practical, as the school he attended was led by only two teachers and had limited resources for educational materials. Bandura saw this as an advantage, as he was forced to rely on his own inquisitiveness and the world around him to grasp the concepts that would serve to further his knowledge.

Bandura entered the University of British Columbia and stumbled onto his career by choosing a psychology class as filler for his curriculum. He instantly fell in love with the field and earned his BA in only three years and was awarded the Bolocan Award in psychology.

He continued his studies at the University of Iowa where he earned his MA and his PhD. While at the University of Iowa, Bandura studied under Kenneth Spence and was influenced by his predecessor, Clark Hull. Bandura began experimenting with imagery, reciprocal determinism, and representation. He began to develop a set of theoretical and analytical skills and was able to offer psychologists a new approach to the evaluation of the mental process, aside from the traditional model of psychoanalysis. Bandura interned briefly at the Wichita Kansas Guidance Center and eventually began teaching at Stanford University in 1953, where he has remained ever since. He currently holds the position of professor emeritus (Janse, 2018).

Bandura began his research endeavours by focusing on human motivation, action, and thought. He worked with Richard Walters to explore social aggression. Their study emphasized the impact of modelling behaviours and gave way to research in the area of observational learning. His best-known study is the Bobo Doll Experiment. This study exposed children to adults behaving aggressively toward a doll; it demonstrated that children behave aggressively when aggression is modeled by adults. However, if the adult was punished for hitting the doll, children were less likely to hit the doll. Bandura emphasized that children learn in a social milieu and often imitate the behaviour of others, a process known as social learning theory.

The goal of the social learning theory is to show that an individual can learn in multiple ways. People make choices based on self-reflection, but mainly the environment in which a person finds themselves influences the way they behave and learn (Janse, 2018).

Assumptions underlying the theory include:

1. People can learn by observing other's behaviours and the consequences that result.
2. Reinforcement of behaviour remains important. Cognitive processes do play a role in learning and whether people choose to repeat behaviour
3. The nature of humans is social, therefore we learn through social interactions e.g. interactional conversation and observation, apprentice activities, collaboration/cooperation, reciprocal teaching.
4. Humans are intrinsically active and exploratory in attempting to impose order, stability, and meaning on experience (Janse, 2018).

Principles of the theory

1. The highest level of observational learning is achieved by first organizing and rehearsing the modelled behaviour symbolically and then enacting it overtly. Coding model behaviour into words, labels or images result in better retention than simply observing.
2. Individuals are more likely to adopt a modeled behaviour if it results in outcomes they value.
3. Individuals are more likely to adopt a modeled behaviour if the model is similar to the observer and has admired status and the behaviour has functional value (Bandura, 1969).

The social learning theory of Bandura emphasizes the importance of observing and modelling the behaviours, attitudes, and emotional reactions of others. Bandura (1977) states: “Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own

actions to inform them what to do. Humans learn to speak, use tools, and to behave appropriately in social situations mostly by observing and imitating others. This is the essence of social learning theory sometimes called observational learning. This theory falls under the category of behaviourism because it involves observing the behaviours of others and the rewards and punishments that result from those behaviours. Future behaviours are then based on these observations as we learn from vicarious reinforcement and punishment. Fortunately, most human behaviour is learned observationally through modelling: from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action." (p22). Social learning theory explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural, an environmental influences (Bandura, 1997).

The component processes underlying observational learning are: (1) attention, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) (2) observer characteristics (sensory capacities, arousal level, perceptual set and past reinforcement), retention, including symbolic coding, cognitive organization, symbolic rehearsal, motor rehearsal), (3) motor reproduction, including physical capabilities, self-observation of reproduction, accuracy of feedback, and (4) motivation, including external, vicarious and self- reinforcement. Because it encompasses attention, memory and motivation, social learning theory spans both cognitive and behavioural frameworks. Bandura's theory improves upon the strictly behavioural interpretation of modelling provided by Miller and Dollard (1941).

Bandura's work is related to the theories of Vygotsky and Lave which also emphasize the central role of social learning (Bandura, 1997).

Key concepts

Cognition and Social Learning

Cognition plays a part in social learning in the form of expectations. After observing a model we expect that if we behave in the same way we will get rewarded or punished similarly. Instead of having to go through the long trial and error learning (incremental learning) where we gradually eliminate the incorrect responses, we are able to benefit immediately from observing the success or failure of others (insightful learning). Some prefer the term, social cognitive learning theory. Here learning is defined as a change in mental processes that creates the capacity to demonstrate different behaviours that occurs as a result of observing others (Johnson, 2014). Enactive and Vicarious Learning Social learning involves learning vicariously. Vicarious learning occurs when we learn by imitating or observing others. Enactive learning occurs when we learn by doing. We learn best when both are combined: observe others and learn by doing. In the classroom, this would mean that students would be able to observe somebody engaged in academic or social tasks and then be given chances to experiment or apply what they have learned.

Four Conditions Necessary for Social Learning

According to Gerrig and Zimbardo (2008) in Johnson (2014), there are four conditions necessary for social learning to take place.

1. Attention. Learners need to pay attention to the behaviour to be learned. In a classroom, teachers sometimes have to point out specific

behaviours. “Boys and girls, did you notice how” Also, teachers sometimes have asked for students to look for specific behaviours. “When you go into the lunchroom I want you to notice how the 6th grade class” When I was coaching wrestling I would often call attention to salient elements of a move before the demonstration. “When Rory does the single leg takedown, notice how he.”

2. Retention. The observer must be able to remember what was observed later when given opportunities to act. Posters with reminder, concept maps, and graphic organizers are all ways to call attention to salient elements. Also, verbal reminders can be used. “We’re going to the library. Let’s remember the three important things we learned about.”
3. Production. Observers must be given opportunities to reproduce the behaviour. Also, observers must be able to reproduce the behaviour. That is, the behaviour must be proximal. For example, I could watch Tiger Woods swing a golf club, but since it is beyond my capabilities to reproduce that behaviour, it would not be a very effective learning situation. Likewise, I could have an expert tap dancer come into a 3rd grade classroom and model dancing; but again, since it would not be possible for most of them to reproduce the behaviour, it would not be a very effective learning situation.
4. Motivation. The observer must be motivated to act. That means that the observer must value the behaviour or the rewards that behaviour may bring about and that observer must expect to see some sort of reinforcement as a result of the behaviour.

Modelling

Modelling in this context refers to behavioural, cognitive, and affective changes that occur as a result of observing one or more models. There are three types of modelling. The first type of modelling is where you attempt to directly imitate another's behaviour. This is called direct modelling. For example, Sam saw Mary study and how she studied. He saw that she got A's on most of her exams. Sam wanted to be as successful. He began to study in the same way that Mary did. The second type of modelling is where you imitate the behaviours of characters in movies, books, video games, or on television. This is called is called symbolic modelling. This occurs frequently with teenagers and the various media they consume. For example, Phil began talking and dressing the way characters do on his favourite TV show. The third type of modelling where you take bits and pieces from a variety of models. This is called synthesized modelling. For example, Harvey was a beginning teacher. He took ideas and modeled his teaching style from a variety of teachers that he observed during student teaching and his first year of teaching.

Models and Social Learning

Gerrig and Zimbardo (2008) identified the following variables as being important in determining how much influence a model will have:

- Status of the model - the model is perceived positively, liked, and respected. Models with high prestige and who are older or more powerful are more apt to influence observational learning.
- Similarity of the model - there are perceived similarities between the model and the observer.

- Potential for modelling – the model's behaviour is within the observer's range of competence to imitate the behaviour. That is, they have the capacity to imitate the task.
- Perceived competence of the model - observers are more likely to imitate behaviours in others they perceive as competent. If you were looking to imitate somebody's golf swing, you would find a golfer who is very good.
- Reinforcing consequences - the model gets rewarded or punished for the behaviour.
- Noticeable behaviour - the model's behaviour stands out against the background of competing models.

Application of the theory

Social learning theory has been applied extensively to the understanding of aggression (Bandura, 1973) and psychological disorders, particularly in the context of behaviour modification (Bandura, 1969). It is also the theoretical foundation for the technique of behaviour modelling which is widely used in training programs. In recent years, Bandura has focused his work on the concept of self-efficacy in a variety of contexts (e.g., Bandura, 1997). Example; the most common (and pervasive) examples of social learning situations are television commercials. Commercials suggest that drinking a certain beverage or using a particular hair shampoo will make us popular and win the admiration of attractive people. Depending upon the component processes involved (such as attention or motivation), we may model the behaviour shown in the commercial and buy the product being advertised (Bandura, 1997).

Using Social Learning Theory to Enhance Teaching and Learning

Below are four simple ways to use social learning theory to enhance teaching and learning:

1. Student demonstrations. Look for students who do a particular skill well. Allow them to demonstrate to others or teach in small groups.
2. Social interaction. Create learning experienced that utilize social interaction. This could include structured conversations, cooperative learning, T-talks, moral dilemmas, or problem solving activities related to curriculum content in which students are able to work together and hear the thinking and reasoning of others.
3. Multiage classrooms. Multiage classrooms contain two or three grade levels within a single class. This creates a variety of opportunities for many forms of social learning to occur.
4. Cognitive modelling. Use cognitive modelling to teach complex skills or processes. Here a teacher thinks aloud while demonstrating a skill. Cognitive modelling is the process of making your thinking visible. (Gerrig & Zimbardo, 2008; Johnson, 2014).

Critique of theory

The social learning approach takes thought processes into account and acknowledges the role that they play in deciding if a behaviour is to be imitated or not. As such, SLT provides a more comprehensive explanation of human learning by recognizing the role of mediational processes. Again, the experiment has frequently been cited by opponents of media violence.

Although the theory can explain some quite complex behaviour, it cannot adequately account for how we develop a whole range of behaviour

including thoughts and feelings. We have a lot of cognitive control over our behaviour and just because we have had experiences of violence does not mean we have to reproduce such behaviour. It is for this reason that Bandura modified his theory and in 1986 renamed his Social Learning Theory, Social Cognitive Theory (SCT), as a better description of how we learn from our social experiences. Some criticisms of social learning theory arise from their commitment to the environment as the chief influence on behaviour. It is limiting to describe behaviour solely in terms of either nature or nurture and attempt to do this underestimate the complexity of human behaviour.

It is more likely that behaviour is due to an interaction between nature (biology) and nurture (environment). Social learning theory is not a full explanation for all behaviour. This is particularly the case when there is no apparent role model in the person's life to imitate for a given behaviour. The discovery of mirror neurons has lent biological support to the theory of social learning. Although research is in its infancy the recent discovery of "mirror neurons" in primates may constitute a neurological basis for imitation. These are neurons which fire both if the animal does something itself, and if it observes the action being done by another (McLeod, 2016).

This theory is relevant to the current theory because, alcohol consumption is socially related. It is consumed in our Ghanaian context during major occasions such as marriage, funeral, child outdooring, hall week celebrations and birthday ceremonies. It therefore implies that, alcohol consumption it is a behaviour that can be learned socially.

This theory gives an explanation to the modalities such as imitation and modelling this alcoholic behaviour hence the relevance to the study.

The concept of alcohol consumption

History of Alcohol and Treatment Beliefs about alcohol use and treatment approaches for alcohol problems have varied considerably, progressing through a series of developmental stages that correspond to the current societal view of the definition of problematic consumption. Prior to the belief that treatment was an option or even necessary, alcohol was viewed as medicinal and nutritious, and drinking was often encouraged (Rorabaugh, 1979). Even though some people imbibed excessively and experienced negative consequences from alcohol use, it wasn't until the mid 1800's when the term "alcoholic" was introduced by Magnus Huss, a Swedish physician who used the term to describe the aversive consequences of drinking (as cited by Miller & Hester, 1995).

Up until that time the moral model predominated, and it was believed that the individual was personally responsible for the decision to drink, excessive consumption and problematic consequences were viewed as the individual's responsibility and under his or her own control; thus, such excess represented a moral failure of the person. There was no need perceived for administering any form of treatment for alcohol problems during this period, largely because it was believed that individuals could control their own drinking if they desired. Instead, social sanctions were imposed on people who were disorderly and exhibited problems from alcohol, and intoxication was viewed as a punishable crime (Connors & Rychtarik, 1989).

With the introduction of the temperance model in the late nineteenth century, it was believed that alcohol consumption was extremely dangerous, and there was no safe acceptable level of drinking for anyone who chose to

use the substance. This is because the effects of alcohol were considered damaging to everyone; it was not surprising that prohibition was enacted as a law. During this time there was no formal treatment for alcohol problems, and refraining from alcohol use involved the individual practicing abstinence, or government control of the cost, availability, and promotion of alcohol to the general public (Levine, 1978).

Following the legalization and reintroduction of alcohol into society, the disease model predominated. It was still believed that alcohol contributed too many problems, yet not everyone was destined to become an alcoholic; only those people who were predisposed to the illness because of biological or dispositional factors were considered to be affected. People who were believed to be alcoholics were viewed as possessing a discrete set of physical vulnerabilities and psychological characteristics that differed from those of normal individuals, and efforts at intervention involved determining who displayed these traits and ensuring that these individuals remained abstinent from alcohol (Caetano, 1987; Crawford, 1987). For those who did not share the disease of alcoholism, however, it was considered safe to consume alcohol; therefore, moderation was an acceptable alternative.

Why the youth consume alcohol

In recent years, alcohol use among the youth worldwide has increased significantly, with the age of at which drinking is started, decline (Cofie, 2010). This, it appears is due partly to availability and the ease of getting alcohol and partly to the marked improved marketing strategies by producers of alcoholic beverages, in their quest to maximize profit. Also, in the bid to

show how matured they are, the youth are particularly attracted to alcohol, therefore leading to its consumption.

Consequences of alcohol consumption

Alcohol use among adolescents causes multiple organ problems (Schinke, Schwinn, & Cole, 2006). Alcohol as a substance is readily absorb from the stomach by the body via the small intestines, the second phase is then distributes to every body organ, tissue, and cells through the circulation (Cederbaum, 2012). Most of the circulating alcohol with in the blood is then been absorbed in the body by the liver (hepatocytes).

This action is fast, and the alcohol gets broken down as a waste called carbon dioxide, water and into energy. Chemical substances which are excreted through the body kidneys do account for about 95 to 98 per cent of the alcohol a human consumed. The other percentages escaped from the body unchanged through sweat, breath, and urine (WHO, 2011). Medical consequences of alcohol can range anywhere from acute organ damage to chronic damage.

Acute complications, a situation which occurs soon after alcohol consumption; whiles chronic complications occur after prolong use. However, some complications may be reversed or treated soon after halting alcohol use, but others may be non-reversible and permanent (Vanderwaal et al., 2001). The liver as an important organ is known to be primarily affected by alcohol (Osna, 2010). Heavy uncontrolled drinking can take a toll on the liver which eventually can lead to a number of problems such as liver inflammations, alcohol hepatitis, fibrosis and cirrhosis (Blachier, Leleu, Peck-Radosavljevic, Valla, & Roudot-Thoraval, 2013). Alcohol liver disease (ALD) is the most

common and most serious complication of long term alcohol use (Osna, 2010).

The ALD have been identified into stages; Stage 1, known as alcoholic fatty change, is characterized by the deposition of fats in the liver making it enlarged. Stage 2 is characterized by progressive liver damage leading to jaundice. The stage is referred to as alcoholic hepatitis. Alcoholic pre-cirrhosis is the third stage, with liver damage. The stage four is the permanent liver damage, often referred to as the alcoholic cirrhosis (Thomson et al., 2008).

Liver dysfunction of any of the first three stages above can be reverse after a period of 3-4 weeks when you observe abstinence from alcohol, but for the fourth stage it is deadly on the other hand and is irreversible. Cirrhosis can lead to additional complications like vomiting blood, spleen enlargement and even death (Zakhari, 2006). Alcohol always interferes with the brain in the communication pathways (Witt, 2010), affecting the way the brain functions.

These adverse disruptions of the Central Nervous System can change the mood and behavior, and make it difficult to think or reason out things clearly and move with coordination. During adolescent, alcohol leads to the structural changes observed in the hippocampus (a part of the brain involving learning process) (De Bellis et al., 2000). If care is not taken, a high levels can render a permanently impairment of the brain development (Spears, 2000).

Drinking excessively or much on a single dose occasion at any time can damage the heart muscles causing problems which may include cardiomyopathy; stretching and drooping of the heart muscles, many other symptoms ranging from the chronic shortness of breath to the heart failure (Room, Babor, & Rehm, 2005; Shirref, 1997). Other complications include

arrhythmias (irregular heartbeats), stroke, and high blood pressure. Although alcohol as a substance is absorbed mainly through the body from the small intestine, the undeviating effect on to the inner lining of the human stomach leads to a condition known as acute gastritis. This attacks in an acute phase which often leads to vomiting. Repeated damage to the stomach lining can lead to hyperacidity known as peptic ulcer (Teyssen & Singer, 2003). Excessive or prolong alcohol can also lead to stomach cancer (Franke, Teyssen, & Singer, 2005).

Pancreatitis is an acute inflammation to the pancreas and usually triggered by binge drinking, and symptoms being presented as piercing pain in the belly and can result in inability to digest food (Tremblay & St-Pierre, 1996). Long term alcohol consumption leads to a decrease production of the white blood cells, a condition which weakens the immune system leading to the easier target for diseases (Szabo, 1997). Chronic drinkers are in many cases more liable to contract such diseases like pneumonia, tuberculosis, than people who do not drink much (National Institute of Alcohol and Alcoholism, 2002).

Adding to the long list of effects of alcohol is poor diet (WHO, 2003). This is more observable in poor communities where alcohol is of pitiable quality, the wellbeing of these people can be further affected which will be leading to a vicious cycle of uncontrolled alcohol consumption and poor health (Nimako, 2011). The wealthy human class can consume fairly a substantial huge amount of alcohol and have no direct complications from alcohol. However, the heavy alcohol consumption coupled with rich the diet

can in most cases lead to obesity, an associated complications called diabetes and hypertension (Scarborough et al., 2011)

Alcohol Interventions

Brief intervention means that individuals are offered some basic practical advice about how to make sure they do not develop difficulties with alcohol problems. For example, this can be done routinely by health care providers when they first interview a patient or at any stage if they suspect risky drinking behaviour. Some doctors explain that in an initial examination with all patients, they automatically say something like, "If you drink, here are some guidelines for how to do it safely." In addition to being a standard approach with all patients on a first visit, brief intervention can be used for any level of a drinking problem, from mild occasional problems to dependent drinkers who are not ready for abstinence or more intensive counselling. Studies show that brief intervention can be extremely effective for those in the early stages of problem drinking. Evidence shows that many people make positive changes after just one session of basic advice (National Institute on Alcohol Abuse and Alcoholism, 2000).

Alcohol-dependent people may not change but they may be better motivated to seek specialized treatment. The simplest form of brief intervention consists of friendly, non-confrontational, matter of fact information about:

1. Alcohol effects (e.g., negatives such as liver and pancreas changes as well as positives such as feeling relaxed);
2. Practical advice about how to maintain safe drinking levels; and
3. Acknowledgment that the client can decide what to do.

Brief intervention is cheap to provide. It is especially effective as a preventive measure that helps people make changes in the early stages of risky drinking. Internationally, it is recommended that primary health care providers, social workers and counsellors should be using the simple process and strategies of this method. Experts and policy makers agree this kind of advice and help can and should be given by doctors, nurses, social workers, counsellors, community health representatives, and community wellness workers (National Institute on Alcohol Abuse & Alcoholism, 2000; National Native Alcohol & Drug Abuse Program, 1998).

Brief Counselling

For clients who are stable with few concurrent problems (no mental illness, major socioeconomic problems, or major personal emotional issues, etc.) and have a mild or moderate problem, more directive brief counselling over three or four visits may be appropriate. This is basically a process of determining how much of a change the person wants to make and sharing some ideas for doing that. The counsellor will need to help the client work through to a specific goal rather than just cutting back. Specific goals include things like drinking only on weekends or only at the bar every day with the guys but not getting drunk.

The health care worker helps clients look at their drinking and learn some specific ways to prevent or change problems, such as: identifying current drinking levels and the risks and benefits, setting drinking limits (e.g., no more than three drinks), strategies for staying within limits (e.g., counting and spacing drinks), figuring out ways to cope with problems other than using alcohol, learning how to say no without losing friends and using self-help

materials. There are many simple self-help materials available that people can use on their own or with follow-up from the health care provider (Alberta Alcohol & Drug Abuse Commission, 2004). Similar structured brief counselling can be used with dependent drinkers as a first step to get them on the road to change with abstinence as the final goal.

Underpinning theory for the study

Alcohol misuse is resistant to change. Evidence now suggests that a person's readiness to change is a major factor in success. No change is possible unless the person acknowledges a problem and wants to do something about it. As in other areas of life, people change only when they have decided there is a need to change. Experts now agree that empathic (understanding) motivational interviewing is an effective treatment tool that helps clients come to their own realization of negative consequences and the need for change. It is in this context that this study will be situated in the transtheoretical model of behaviour change commonly referred to as the Stages of Change (Prochaska, Norcross & DiClemente, 1995).

It was originally developed about twenty years ago to help people stop smoking, but has been found to be an effective tool in many kinds of change. This approach looks at behaviour change as a process that depends on the person's thinking about alcohol use and problems. A well-known model in the addictions area is Prochaska and DiClemente's (1992).

Transtheoretical model of behaviour change commonly referred to as the Stages of Change Model. The model was originally developed through an examination of the stages and process of self-change in smokers, and suggests that individuals attempting to change behaviour move through a sequence of

The stages of change and tips for working with clients in each stage are as follows. The process says any change follows five steps plus preparing for relapse.

Pre- contemplation: At this first step, there is some awareness and concern by the victim about drinking excessively or inappropriately, but not real acknowledgment of a problem. (e.g., bosses or family may have said something; the person may have gotten into a fight while drunk, etc.) She/he may think about changing sometime, but not in any definite way. Counsellors need to gently help the client come to the conclusion that, they have a problem and there is a reason or a need to change.

Contemplation: The person decides to do something, although there are probably mixed feelings. The person may be definite that she/he will change, but not yet. At this point, the person will be more willing to discuss the pros and cons and options. The counsellor is to help raise awareness of the problem by observation of behaviour.

Preparation: An active decision is made and a commitment made to change. The counsellor helps the client gather information, assesses options and considers positive and negative consequences of each option. This is an important stage because this is the beginning of a plan. The plan must be based on enough information and on the client's needs.

Action: The client is fully committed and starts on the plan using strategies that will lead to achievement of the goal. The counsellor is to reinforce change and provide support and guidance.

Maintenance: The person is following the plan and using strategies to stay on track. New habits are practiced. The counsellor is to help the client to support continued change and help with relapse prevention.

Relapse: New habits do not come easily. Most people will fall back into earlier patterns at least occasionally. It is important to help them understand that they may get off track, but they can plan how to get back on track. Relapses are excellent learning situations for examining what led this to happen and what can be done next time to prevent it from happening again. People may go back and forth between stages several times before a change is complete. They should simply be helped to work through the issues and move on again.

Empirical Review

Socio-demographic characteristics of alcohol abusers

Although there is no single risk factor that is dominant, the literature suggests that the more vulnerability a person has, the more likely the person is to develop alcohol problems (Schmidt et al., 2010). From a public health perspective, vulnerability denotes susceptibility to poor health or illness, which can be manifested through physical, mental and social outcomes, including alcohol-related problems. It has been shown that vulnerable individuals are often at greater risk of having more than one individual risk factor, e.g., unhealthy diet, lack of physical activity and tobacco use (Blas & Kurup, 2010).

Age

Children, adolescents and elderly people are typically more vulnerable to alcohol-related harm from a given volume of alcohol than other age groups

(Midanik & Clark, 1995; Makela & Mustonen, 2000). Also, early initiation of alcohol use (before 14 years of age) is a predictor of impaired health status because it is associated with increased risk for alcohol dependence and abuse at later ages (Grant & Dawson, 1997; WHO, 2014). At least part of the excess risk among young people is related to the fact that, typically, a greater proportion of the total alcohol consumed by young people is consumed during heavy drinking episodes (US Department of Health and Human Services, 2007). Also, young people appear to be less risk-averse and may engage in more reckless behaviour while drunk. Alcohol-related harm among elderly people is due to somewhat different factors than alcohol-related harm among young people.

While alcohol consumption generally declines with age, older drinkers typically consume alcohol more frequently than other age groups. Also, as people grow older, their bodies are typically less able to handle the same levels and patterns of alcohol consumption as in previous life years, leading to a high burden from unintentional injuries, such as alcohol-related falls (Sorock, Chen, Gonzalgo, & Baker, 2006; Grundstrom, Guse, & Layde, 2012).

The alcohol-related burden of disease among older age groups is an increasing public health concern because of the rapidly ageing population in many countries worldwide (WHO, 2012). Age-related vulnerability is the basis for age-specific monitoring of alcohol consumption and policy responses. Alcohol policies that are based on age-related vulnerability include partial or total advertising bans, restrictions on access to alcohol through

minimum ages at which it is legal to purchase alcohol, and laws aimed to prevent any alcohol consumption by young people when driving vehicles.

Late-middle-aged and older adults participate in and benefit from 12-step SHGs. In two studies, groups of older patients (ages 55 years or more) with SUDs were matched with younger (ages 21-39 years) and middle-aged (ages 40-59 years) patients on the basis of demographic factors and dual diagnosis status. These three groups of patients attended a comparable number of SHG meetings during and in the 2 years after residential treatment. Overall, patients who attended more group meetings experienced better alcohol and psychological distress outcomes. Patients who attended more meetings reported less alcohol consumption. The three age groups did not differ in the associations between 12step SHG attendance and these outcomes (Lemke & Moos 2003a.2003b).

Gender

Harmful use of alcohol is the leading risk factor for death in males aged 15–59 years, yet there is evidence that women may be more vulnerable to alcohol-related harm from a given level of alcohol use or a particular drinking pattern. The vulnerability of females to alcohol-related harm is a major public health concern because alcohol use among women has been increasing steadily in line with economic development and changing gender roles (Grucza, Bucholz, Rice, & Bierut, 2008; Wilsnack, 2013) and because it can have severe health and social consequences for newborns (Abel & Sokol, 1987; Lupton et al., 2004; Popova et al., 2013). More so, 7.6% of all male deaths in 2012 were attributable to alcohol, compared to 4.0% of female deaths.

Men also have a far greater rate of total burden of disease expressed in disability-adjusted life years (DALYs) attributable to alcohol than women – 7.4% for men compared to 2.3% for women.

The increased burden of disease among men is largely explained by the fact that compared to women; men are less often abstainers, drink more frequently and in larger quantities. When the number of health and social consequences is considered for a given level of alcohol use or drinking pattern, sex differences for social outcomes reduce significantly or even reverse. One explanation is the higher prevalence of injuries among men (Midanik & Clark, 1995; Bongers, Garretsen, Van de Goor & Van Oers, 1998; Makela & Mustonen, 2000; Nolen-Hoeksema, 2004); however, for health outcomes such as cancers, gastrointestinal diseases or cardiovascular diseases, the same level of consumption leads to more pronounced outcomes for women.

The vulnerability of women may be explained by a wide range of factors (Wilsnack, Wilsnack, & Kantor, 2013). For example, women typically have lower body weight, smaller liver capacity to metabolize alcohol, and a higher proportion of body fat, which together contribute to women achieving higher blood alcohol concentrations than men for the same amount of alcohol intake. Women are also affected by interpersonal violence and risky sexual behaviour as a result of the drinking problems and drinking behaviour of male partners (Kalichman, Simbayi, Kaufman, Cain, & Jooste, 2007). Moreover, alcohol use has been shown to be a risk factor for breast cancer (Seitz, Pelucchi, Bagnardi, & Vecchia, 2012). Also many societies hold more negative attitudes towards women's drinking alcohol than men's drinking, and

especially towards their harmful drinking (Pretorius, Naidoo, & Reddy, 2009), which, depending on the cultural context, may increase women's vulnerability to social harm. Finally, women who drink during pregnancy may increase the risk of Fetal Alcohol Spectrum Disorder (FASD), and other preventable health conditions in their newborns (Barr & Steissguth, 2001; Viljoen, Gossage, Brooke, Adnams, Jones, & Robinson, 2005). This is part of the evidence supporting mandatory health warning labels on alcoholic beverage containers, including information for all pregnant women on the impact of alcohol on the fetus.

Family risk factors

A family history of alcohol use disorders is considered a major vulnerability factor for both genetic and environmental reasons (Merikangas, Stolar, Stevens, Goulet, Preisig, & Fenton, 1998; WHO, 2004). Heritable or genetic risk factors account for a substantial proportion of the variation in alcohol dependence. Multiple genes influence alcohol use initiation, metabolism and reinforcing properties in different ways (Clark, 2006), contributing to the increased susceptibility to toxic, psychoactive and dependence-producing properties of alcohol in some vulnerable groups and individuals.

Parental alcohol use disorders have been found to negatively affect the family situation during childhood. Parents with alcohol use disorders display particular patterns of alcohol consumption and thereby increase the likelihood that their children will develop drinking patterns associated with high risk of alcohol use disorders when they are introduced to alcohol. Heavy drinking by parents affects family functioning, the parent-child relationship and parenting

practices, which in turn affects child development adversely (Latendresse, Rose, Viken, Pulkkinen, Kaprio, & Dick, 2008). The mistreatment of children, including sexual abuse, physical abuse and neglect, may also lead to childhood psychopathology and later to problem drinking (Shin, Pelucchi, Bagnardi, & La Vecchia, 2009).

Socioeconomic Status

Surveys and mortality studies, particularly from the developed world, suggest that there are more drinkers, more drinking occasions and more drinkers with low-risk drinking patterns in higher socioeconomic groups, while abstainers are more common in the poorest social groups. However, people with lower socioeconomic status (SES) appear to be more vulnerable to tangible problems and consequences of alcohol consumption (Grittner, Kuntsche, Graham, & Bloomfield, 2012). For example, manual workers seem more vulnerable to severe alcohol-related health outcomes, including mortality, than non-manual workers for a given pattern of drinking (WHO, 2014).

Notably, this vulnerability is found to be handed down through the generations (Hemstrom, 2002). One explanation for the potentially greater vulnerability among lower SES groups is that they are less able to avoid adverse consequences of their behaviour due to a lack of resources. For example, individuals with higher SES may be more able to choose safer environments in which to drink, purchase social or spatial buffering of their behaviour and have better access to high-quality health care services (potentially explaining SES-related differences in survival after hospitalization or treatment for alcohol problems).

A second explanation could be that individuals in lower SES groups have a less extensive support network, i.e., fewer factors or persons to motivate them to address alcohol problems before severe consequences occur.

A third, contested, explanation that has been proposed in the past is that of an "all or nothing" pattern of behaviour in lower SES groups, i.e., poor people drink less often, but when they drink, they drink a lot (Schmidt et al, 2010). The link between SES and alcohol-related harm is an area of growing public health concern, because market liberalization and increasing affluence have increased the availability of alcohol to lower SES groups in growing economies. Given that changes in affordability of alcohol have often increased drinking, particularly among lower SES groups (Hradilova, 2004). A rise in alcohol consumption is expected to increase the alcohol-attributable burden of disease in developing economies. The process of marginalization and stigmatization related to alcohol use disorders, and the drift in social status that may result, may also cause significant social burden.

Economic Development

The most important of the societal vulnerability factors related to alcohol consumption, as well as to alcohol-attributable disease burden, is economic development. For the purpose of this report World Bank income groups and Gross Domestic Product per capita based on Purchasing Power Parity (GDP-PPP) are used as a proxy for economic wealth. World Bank income groups aggregate countries into low-income, lower middle income, upper middle income and high-income countries. In contrast, GDP-PPP is gross domestic product converted to international dollars using purchasing

power parity rates for the purposes of normalizing between-country differences.

Countries' development status can be more broadly defined than just considering their economic wealth, for example, by describing development in terms of levels of infant mortality and adult life expectancies. The research on links between alcohol consumption, alcohol-related harm and economic development of a society, country or region largely mirrors data on associations between alcohol consumption and the SES of an individual. Greater economic wealth is broadly associated with higher levels of consumption and lower abstention rates. However, for a given level or pattern of drinking, the alcohol-attributable mortality and burden of disease and injury will generally be greater in societies with lower economic development than in more affluent societies.

For chronic effects of heavy drinking such as liver cirrhosis, for instance, there will often be a worse outcome because of the existence of cofactors such as nutritional deficiencies or viral hepatitis. Also, services to mitigate the adverse health effects of Alcohol and public health drinking are likely to be less widely available. Drink–driving may also have a worse outcome because less affluent societies have less safe streets and vehicles (Room, Jernigan, Carlini-Marlatt, Gureje, Makela, & Marshall, 2002).

Culture and Context

The degree of risk for harm due to use of alcohol varies with the drinker's age, sex, familial factors and SES, as well as the drinker's behaviour and alcohol exposure (volume, patterns and quality of alcohol consumed. However, it also varies with the physical and socioeconomic context in which

a given drinking occasion and the ensuing hours take place. Moreover, the nature and extent of the harm that results from drinking can vary widely depending on the context. In some contexts, drinkers will be vulnerable to alcohol-related social harm, disease, injury or even death if any volume of alcohol is consumed. This is the case for instance if a person drinks before driving a car or piloting an airplane, when consuming alcohol can result in serious penalties and harm. Also, in many countries there can be serious social or legal consequences for drinking at all, due to laws and regulations or cultural and religious norms, which can increase the vulnerability of drinkers to alcohol-related social harm. Studies showing differences in consumption or alcohol-related harm between different ethnicities within countries have underlined the importance of further research on culture-related vulnerabilities (Chartier, Vaeth, & Caetano, 2013).

Levels of alcohol consumption among University Students

Hagger, Wong and Davey (2015) in Australia, conducted a study titled a theory-based behavior-change intervention to reduce alcohol consumption in undergraduate students. The aim of the study was to develop a brief theory-based intervention using motivational and self-control intervention techniques to reduce alcohol consumption in undergraduate students. The intervention adopted a factorial design to test the main and interactive effects of the techniques on alcohol consumption. Using mental simulations and the strength model of self-control as the theoretical bases of the intervention, the study adopted a fully randomized 2 (mental simulation: mental simulation vs. control irrelevant visualization exercise) × 2 (self-control training: challenging Stroop task vs. easy Stroop task) between-participants design. Non-abstinent

undergraduate students aged 18 years or older were eligible to participate in the study.

Participants completed an initial survey including self-reported alcohol consumption measures, measures of motivation and self- measures. Participants were randomly allocated to receive either a mental simulation exercise presented in print format or a control irrelevant visualization exercise. Thereafter, participants were randomly assigned to receive a challenging online self-control training exercise or an easy training exercise that has little self-control demand over the course of four weeks.

Four weeks later participants completed a follow-up alcohol consumption, motivation and self-control measures. The interventions showed to be effective in reducing alcohol consumption in young people, but few reported the theoretical basis of the intervention and its components, tested the independent and ineractive effects of the techniques aimed at reducing alcohol consumption.

Intervention studies

An outcome evaluation of the BABES (Beginning Alcohol & Addiction Basic Education Studies) alcohol and drug abuse prevention program for first grade students: a case study conducted by Alice Mesaros at Lehigh University, Pennsylvania US in the year 1996 shows some gaps in theory. The short-term effectiveness of the BABES (Beginning Alcohol and Addiction Basic Education studies alcohol and drug abuse prevention program for first grade students was measured in this case study. The program was developed for young children aged 4 to 8 years by the Greater Detroit Area Branch affiliate of the National Council on Alcoholism and Drug Dependence.

During the fall of 1995, first grade students (n=59) from three classrooms in a single school received a weekly 45 minute lesson for 7 weeks by the same program facilitator. The lessons topics addressed are: self-image, feelings, peer-pressure, decision-making, coping skills, seeking help, the effects of alcohol and drug abuse, and personal privacy. A Pretest-Posttest with no control group design was used, a knowledge test with questions based directly on program content was administered, and a comparisons of means wall conducted. Participants scored significantly higher at the posttest overall as well as on several select questions.

Results indicated that at pretest, the children were already able to identify beer with ease; however, the low pretest and the improved but still low posttest results for the questions testing their knowledge about the effects of alcohol and drug abuse are perplexing. The greatest effects were seen on measures of the children's knowledge at posttest about coping skills and about when to use drugs (medicine). Although the program appears to have a short-term effect, this must be regarded with caution due to the threats to validity inherent in the evaluation design. The study, though an interventions study, differs from this work with regards to the target group. The researcher focused on children; however, this study will be among university students. Again the study did not use a control group which will be utilized in this study. The study was also conducted in the United States of America, while this research work will be conducted here in Ghana, Africa, Enhancing motivation to change in clients with alcohol use disorders: video feedback as a brief intervention was a study carried out by Wendy M. Rothman in the year 2009 at the University of Montana.

The research examined whether videotaped self-observation of drinking behaviour combined with a one-session motivationally-based interview resulted in higher levels of motivation to change drinking behaviour, lower levels of quantity and frequency of alcohol consumption, decreases in alcohol-related problem behaviours, and expectations of the positive effects of alcohol for individuals mandated to treatment for alcohol-use disorders. DUI offenders (n = 8) and heavy drinking college students (n = 13) mandated to treatment were randomly assigned to receive treatment as usual at their respective agencies or an experimental video intervention in addition to their regular treatment requirements. Participants were assessed at baseline and at one-month following treatment. Participants in both conditions self-reported significantly fewer alcohol-related problem behaviours at the one month follow-up. A non-significant trend was found between the groups over time for alcohol-related problem behaviours; participants assigned to treatment as usual reported fewer alcohol-related problem behaviours at follow-up relative to participants assigned to the experimental video intervention. An additional non-significant trend was found for movement along the stages of change.

Two participants who received the video intervention regressed to previous stage levels and one participant who received treatment as usual moved forward one stage. Most participants assigned to the video intervention reported increased insight into their own drinking behaviour following the video viewing. Results from this study suggest that aside from increasing awareness about drinking behaviour, the data do not support the use of video self-monitoring of drinking behaviour as a treatment intervention for individuals with alcohol-use disorders.

The researcher advocated that, future research should incorporate some modified components of the video intervention into existing motivationally-based treatments as a way to increase awareness about drinking behaviour. It can be inferred from this study that, a treatment intervention for individuals with alcohol consumption is highly recommended. Similar study on alcohol by Clarke at Virginia State University titled environmental and dispositional factors related to college students' alcohol consumption during twenty-first birthday celebrations. Three studies were conducted to investigate dispositional and environmental factors related to alcohol consumption during 21st birthday celebrations, and test an internet-based intervention designed to reduce alcohol consumption during 21st birthday celebrations (21BDCs). Results of Study indicated the majority of alcoholic beverages (79.3%) are consumed rapidly.

Rapid consumption was positively related to drinking history and normative perceptions, and negatively related to perceptions of behavioural control. The relation between sociocultural beliefs and rapid consumption are mediated by normative perceptions and perceptions of behavioural control.

The major objectives of Study 2 were to explore: a) 21BDC planning behaviours and the physical and social 21BDC environment, b) the relation between intoxication and planning behaviors, celebratory behaviors, and the 21BDC environment, and c) the frequency of various alcohol related negative outcomes. Results indicate 26.4% of the participants exceeded an eBAL of .26. Intoxication during 21BDCs is enabled by the availability of free drinks, and having a friend to look after oneself or monitor alcohol consumption does not lead to lower levels of intoxication.

The most frequent negative outcomes were hangovers, blackouts and vomiting, with 50% of celebrants experiencing at least one of these outcomes. Study 3 tested a web-based intervention designed to reduce intoxication and negative outcomes during 21BDCs.

The intervention was implemented four weeks before the 21st birthday, was designed to: a) change perceptions of drinking norms during 21st birthday celebrations, b) increase perceptions of behavioural control over alcohol consumption, and c) counter social pressures to consume alcohol during the weeks leading up to the celebration. Results indicated no significant reductions in number of alcoholic beverages consumed, intoxication or negative outcomes, as compared to a traditional 21st birthday card intervention and no-intervention controls. While students were not motivated to implement many of the suggested harm-reduction strategies, there was a significant increase in the consumption of food and non-alcoholic beverages among participants receiving the web-based intervention. Development and implementation of effective interventions to reduce intoxication during 21BDC remains a significant challenge. The study was partly an intervention study, however, the intervention carried out was web-based interventions and the researcher found out that there were no significant reductions in alcohol consumption. This gives a backing to this study which is going to be a physical intervention.

Survey studies

It has been found in numerous studies that alcohol consumption is a major problem on college campuses. Most individuals who drink alcohol fall into the 18-29 age range, an age group that comprises the vast majority of the

college population (Greenfield & Rogers, 1999). Though many college students are under the legal age for alcohol consumption, a recent study of 18-24 year olds found excessive consumption of alcohol resulted in a number of problems, including unwanted sexual experiences, fights, sickness, academic problems, and even death (Hingson, Heeren, Winter, & Wechsler, 2005). Sixty-two percent of students enrolled in college full-time reported using alcohol at least once during the past month, with 43% citing they had participated in binge drinking during that month, according to a survey conducted by the National Center for Health Statistics (2005).

It is clear, then, that alcohol is used frequently by college students. Despite many preventative measures to decrease alcohol use on campus, its abuse has continued to remain a constant threat and appears to be on the rise. In a study conducted in 2002, heavy drinking rates had remained stable, while extreme drinking (including drinking to get drunk and frequent drunkenness) had significantly increased over the past ten years (Wechsler, Lee, Kuo, Seibring, Nelson, & Lee, 2002). It has also been reported that college students drink more, on average, than their non-college peers (Schulenberg, Maggs, Long, Sher, Gotham, Baer, Kivlahan, Marlatt, & Zucker, 2001). College campuses, then, may be places that foster drinking, as opposed to repelling it.

Though there are a number of negative consequences and risks associated with drinking, such as fights, injuries, academic failures, economic issues, and legal consequences, students continue to use and abuse alcohol (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). In a national survey of 140 college campuses, college students reported negative consequences from both their own drinking as well as others' drinking

behaviours (Wechsler, Nelson, 2010). Students, then, are not blind or immune to alcohol's impact on their lives. The data suggests that this is, in fact, quite the opposite. Students appear to be very aware of the consequences associated with drinking, yet they continue to partake in alcohol. Many of these negative consequences appear to be due to excessive or binge drinking. Drinking behaviour is a kind of habit learned by interactions between social environments and people (Stoffel & Moyers, 2005). Many studies suggested that people who drink with others, especially college peers, get more opportunities to experience excessive alcohol consumption (Donovan, 2004). Particularly, there is a common culture that involves alcohol consumption during social gatherings. For college students, fraternities or sororities are commonly organized around social gatherings, so that many college students experience excessive alcohol consumption through participating in those organizations.

Controlling alcohol consumption among college students joining fraternal or sorority organizations could play a significant role in reducing the overall prevalence of problematic alcohol consumption among college students. Many public health practitioners have identified target populations that are highly susceptible to alcohol consumption and its associated problems. Among these populations, excessive alcohol consumption among young people, especially college students, is one of the most important public health concerns in many countries around the world, including the United Kingdom and the Netherlands as well as the USA (Fager & Melnyk, 2004; Hendriks, de Bruijn, & van den Putte, 2012). Many young people first consume alcohol after entering college, and even if a higher percentage of college students just

started drinking before becoming a college student, most of them experience binge and heavy drinking during college (Meding, 2012).

Moreover, according to the statistic from the US Department of Health and Human Services in 2012, the drinking pattern of young people between 18 and 25 is heavier than adults above 25 years old in the US (Substance Abuse and Mental Health Services Administration [SAMHSA], 2013). College students also have a higher prevalence of heavy drinking than young people in the same age group in the USA who do not attend college (Wechsler, Dowdall, Davenport, & Castillo, 1995; Carter, Brandon, & Goldman, 2010).

Therefore, alcohol consumption of college students is the highest among populations, and they are very susceptible to excessive alcohol consumption. This tendency can be found in the other countries. For example, Korea is one of the countries with a high rate on prevalence of alcohol consumption among college students. College students in the USA show comparable behaviours. Alcohol consumption of college students is the highest among the US population. In 2012, 67.7% of college students in the US reported alcohol consumption during the past month, and 37.4% were in the category labeled high-risk drinking which is defined as consumption of five or more in a row in the last two weeks (Johnston, O'Malley, Bachman, & Schulenberg, 2013).

According to a report of the Korean Alcohol Research Foundation (KARF) in 2010, 85.4% of college students experienced drinking during the past month, and 71.3% were high-risk drinkers which is defined as consumption of five or more drinks for males and four or more drinks for females in one occasion in the last two weeks (KARF, 2011).

Canada is another country which has a similar pattern of alcohol consumption. Canada is often compared to the US in many characteristics because the two countries resemble each other and are in geographically similar locations. Approximately 90% of college students in Canada use alcohol, and 32% were heavy drinkers at least once a month (Tamburri, 2012). The year of college may not be thought of as a crucial factor directly affecting alcohol consumption among college students, but data shows an increase in drinking each year that they spend in college (Carter, Brandon, & Goldman, 2010). This information reveals that college students who spend more time in college might have more opportunities for being in a problematic alcohol consumption group or situation. In fact, Korean data reveals that prevalence of alcohol consumption during the past month among college students who were not freshmen was 88.2%, while the rate dropped to 82.3% among freshmen (KARF, 2010), a tendency is also shown in the USA.

According to the NSDUH in 2012, prevalence of binge drinking among freshmen was 32.1%, while prevalence of binge drinking among 2nd or 3rd year college students was 40.0% and among 4th or higher year 19 college students was 50.6% (SAMHSA, 2013). Thus, the alcohol consumption of more advanced students who are in higher years in college should be controlled, and drinking behaviours among college students have to be managed continuously during the students' entire college career. A variety of factors have been identified at the individual and the societal levels, which affect the magnitude and patterns of consumption and can increase the risk of alcohol use disorders and other alcohol-related problems in drinkers and others (Shi & Stevens, 2005; Babor et al., 2010).

For a given level or pattern of drinking, vulnerabilities within a society are likely to have many of the same differential effects as those for differences between societies. Many of these differences are mitigated, but not entirely removed, by the universal availability of health care within the society. Where there is unequal access to treatment or other resources, the health and social consequences of a given level or pattern of drinking are also likely to be more severe for those with less resources (Shi & Stevens, 2005; WHO, 2007; Blas & Kurup, 2010).

The range in severity of substance use problems encountered in the non-addiction specialty settings is greater than in treatment centers, thereby providing the opportunity to intervene before serious social consequences and alcohol use disorders develop (Wagner, Brown, & Monti, 1999). Some of the most promising interventions for alcohol consumption disorders have incorporated multiple components and systems. These include (1) family therapies with both familial and community components (i.e., multidimensional family therapy [MDFT]) (Faw, Hogue, & Liddle, 2005) and Multi-Systemic Therapy (MST) (Swensen, Henggeler, Taylor, & Addison, 2005) and (2) cognitive-behavioural therapies (CBT) (Waldron & Kaminer, 2004). Several studies have demonstrated significant improvement among individuals with alcohol consumption disorders who were receiving family-based intervention, group or individual cognitive-behavioural therapy, and therapeutic community interventions (Waldron & Kaminer 2004; Swensen et al. 2005). All forms of these treatments have substantive differences in intervention design and delivery as well as efficacy evaluation compared with adult alcoholism treatment research (Kaminer & Slesnick, 2005).

In particular, consideration of youth motivation appears critical in engagement and retention of youth in single-component and complex interventions (Faw et al. 2005) as well as their continued success following treatment (Brown & Ramo cited in Kelly, Myers, Brown, 2002). Although limited at this time, evidence is emerging that pharmacologic treatment of co-occurring psychiatric disorders benefits adolescents with alcohol use disorders (Cornelius, Clark, & Bukstein, 2005).

Recent school-based brief intervention studies suggest that reductions in alcohol use and consequences are mediated by purposeful self-change efforts on the part of teens (Brown, Anderson, Ramo, Tomlinson, 2005) and that expectations of reduction/cessation outcomes may be critical to this change process (Metrik et al. 2004). One 4-year follow up of college freshmen found, however, that reduction in consequences had a lasting effect, whereas reductions in quantity and frequency of alcohol use had washed out by then (Baer, Kivlahan, Blume, 2001).

In another study by Francisco Gil-del-Real in 2012 titled an alcohol intervention model with college students: effectiveness of the basics program, the researcher sort to use the Brief Alcohol Screening and Intervention for College Students (BASICS) program designed at the University of Washington to provide treatment for high-risk drinkers in the college population. The program was evaluated in 2002 as a part of the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2002) report on college drinking. However, this evaluation was based exclusively on a narrative review of the available intervention literature.

The purpose of the study was to conduct meta-analyses on selected empirical literature related to the efficacy of the BASICS program in order to serve as a complement to the already extant findings of the NIAAA (2002) review. Five experimental studies conducted on college campuses were selected that utilized a BASICS intervention group, an assessment-only control group, and similar measurement protocols. The overall sample size for the meta-analyses ranged from N =290 to N = 648. The meta-analyses were conducted with the goal of determining the combined effect size of the five studies, and to then draw conclusions about how effective the BASICS program is at treating three domains of alcohol abuse: Total intake of alcoholic beverages over time, binge drinking days over time, and alcohol related life problems over time. Combined effect sizes for all three domains were substantial: drinks per week Hedges g = -0.323 with a p-value of 0.003; binge drinking days Hedges g = - 0.307 with a p-value of 0.009; and alcohol related life problems Hedge's g = - 0.203 with a p-value of 0.010. Although the study was on alcohol consumption among university students, it was a meta-analysis, which is a survey study. However, this research would want to conduct an intervention study to evaluate the efficacy of the 12 step and motivational interview therapies.

Reavley, Jorm and McCann (2011), studied Alcohol consumption among tertiary education students. The aim of the study was to survey students and staff within a tertiary education institution to investigate patterns of alcohol use, alcohol-related problems, knowledge of current National Health and Medical Research Council (NHMRC) guidelines for alcohol consumption and intentions to seek help for alcohol problems.

Students of an Australian metropolitan university (with staff as a comparison group) participated in a telephone interview. Questions related to knowledge of NHMRC guidelines, drinking behaviour, alcohol-related problems and help-seeking intentions for alcohol problems. Level of psychological distress was also assessed.

The results showed that, of the completed interviews, 774 (65%) were students and 422 (35%) were staff. While staff were more likely to drink regularly, students were more likely to drink heavily. Alcohol consumption was significantly higher in students, in males and in those with a history of earlier onset drinking. In most cases, alcohol-related problems were more likely to occur in students. The majority of students and staff had accurate knowledge of the current NHMRC guidelines, but this was not associated with lower levels of risky drinking.

Psychological distress was associated with patterns of risky drinking in students. They concluded that, their findings were consistent with previous studies of tertiary student populations, and highlighted disconnect between knowledge of relevant guidelines and actual behaviour. There is a clear need for interventions within tertiary education institutions that promote more effective means of coping with psychological distress and improve help-seeking for alcohol problems, particularly among young men. Even though the study was a survey, it focused on university students and concluded that there was clear need for interventions within tertiary education institutions and that is what this current study seeks to do.

In another study, Smith (2010) of the University of North Carolina conducted a study titled alcohol consumption and problem drinking as a

function of social norms among college males. There were three parts to the study: an individual differences component (to determine the various amounts of alcohol consumed by fraternity and non-fraternity members), men's perceptions of others' drinking behaviour, and an experimental portion. The results revealed fraternity men actually consumed, and are also perceived to consume, more alcohol than non-fraternity men. The results also indicated that both fraternity and non-fraternity men's current drinking patterns are influenced by their peers, but only those in their own social groups. A 2 (high or low alcohol consumption portrayed in the vignette) x 2 (fraternity or non-fraternity portrayed in the vignette) x 2 (whether the participant is Greek or Non-Greek) between subjects factorial analysis of variance showed that fraternity and non-fraternity men view others differently based on Greek membership and drinking behaviour in regard to likeability and morality. For likeability, non-fraternity participants reported a portrayed non-fraternity member in the vignette as being more likeable than a portrayed fraternity member, while non-fraternity participants also judged light drinkers to be significantly more favorable than heavy drinkers. For morality, fraternity participants rated portrayed fraternity men in the vignette as being more moral. Of importance as well, was that men displayed in the vignette as light drinkers were believed to be more moral than heavy drinkers. This study focused on male students only and it was mainly a survey study, it therefore leaves a gap in what pertains with women how an intervention study could yield a different results.

Again, Beom-young (2014) of the University of Wisconsin-Milwaukee conducted a study titled factors associated with college students' excessive

alcohol consumption within the occupational therapy practice framework: an epidemiological analysis, sort to estimate the relative influence of predictor variables on excessive alcohol consumption among college students for providing effective prevention and intervention. Also, this study suggests the roles of occupational therapy in Health promotion and Well-being. The data from 7,166 college students (3,176 males, 3,990 females) aged between 18 – 25 years from the 2012 National Survey on Drug Use and Health (NSDUH) conducted by the US Department of Health and Human Services was used.

Two criterion variables, binge drinking and heavy drinking, were used as indicators of excessive alcohol consumption. There were 12 predictor variables within four Context and Environment classifications as described by the Occupational Therapy Practice Framework (OTPF): Domain and Process (AOTA, 2008a). Multiple logistic regression analyses were conducted to estimate associations between excessive alcohol consumption and predictor variables, adjusting for other predictor variables. Hierarchical Regression was conducted stepwise in four Context and environment classifications.

The results saw perceived risk of excessive drinking and importance of religious beliefs was strong negative predictors of excessive alcohol consumption. The Cultural classification provided the largest influence on excessive alcohol consumption in both males and females. The second largest classifications influencing binge drinking differed based upon gender. Personal classification was the second largest one for males, while temporal classification was the second largest one for females. Occupational therapy can play significant roles in Health promotion and Well-being by helping people to actively engage in their meaningful occupations.

The researcher concluded that, cultural factors among college students should be managed to prevent excessive alcohol consumption among them. Occupational therapists can provide prevention programs by using knowledge on the OTPF: Domain and Process. Although the study was on the concept of alcohol consumption, the method used was a survey and was carried out in the United States. The current study however is an intervention study.

Oti-Boateng (2016) also undertook a study titled alcohol consumption among university of Ghana students on Legon campus. It was conducted to determine the proportion of University of Ghana students who consume alcohol and assess the factors and levels of alcohol consumption among University of Ghana students. The study used a cross-sectional design. The dependent variable was alcohol consumption and independent variables were demographic, cultural and social factors. Data were collected using a structured questionnaire and analyzed with STATA version 13. The results showed that, Out of a total of 403 students from level 100 to 400 comprising 202 males and 201 females were interviewed, the results showed that, the proportion of students who currently consumed alcohol was 25.81%. More males (33.67%) consumed alcohol compared to females (17.91%), and the average age at first consumption of alcohol was 18.67 years. The study further showed that students who smoked were more likely to consume alcohol.

The research made the conclusions that, Students whose parents consume alcohol or those who smoke are more likely to consume alcohol than those who do not. Also, males consume more alcohol than females. This is similar to what this new researcher would want to study in terms of the

concept alcohol, however, the approach and the methodologies differ since this new study intends to conduct an intervention study.

Efficacy of the Twelve-step therapy among alcohol consumption disorders

Self Help Groups (SHGs) are an important source of abstinence-specific and general support and may be especially effective in counteracting the influence of substance users in a social network. These groups provide guidance, goal direction, and monitoring by offering modeling of substance use refusal skills, ideas about how to avoid relapse-inducing situations, and practical advice for staying sober. Individuals who continue to attend AA more regularly after treatment are more likely to have social network members who support cutting down or quitting substance use than are individuals who attend AA less regularly. In fact, the increase in friends' support associated with SHGs explains part of their positive influence on remission (Humphreys et al. 1999b).

In addition to obtaining support, providing support to others may benefit recovering individuals because it increases a commitment to abstinence, satisfaction from helping other individuals in need, and the helper's own sense of independence and self-efficacy. In fact, recovering individuals who help their peers to maintain long-term sobriety are better able to maintain sobriety themselves (Pagano et al. 2004). Patients who engage in more helping during treatment tend to be more involved in SHGs after treatment and, in turn, are more likely to achieve abstinence (Zemore et al. 2004). Moreover, SHG members who become sponsors are more likely to maintain abstinence than those who do not; this effect appears to be independent of SHG attendance (Crape et al. 2002).

According to Kelly et al. (2002), attendance at 12-step meetings in the first 3 months after treatment was associated with more motivation for abstinence and self-efficacy at 3 month follow-up, which predicted abstinence at 6-month follow-up. The strength of affiliation with SHGs explained part of the connection between 12-step attendance and motivation for abstinence, which explained some of the link between attendance and 6-month outcomes. Thus, youngsters' attendance appears to contribute to affiliation, which enhances motivation for abstinence; motivation then helps to explain why attendance is related to better substance use outcomes. Individuals whose beliefs are more consonant with the 12 step orientation are more likely to affiliate with 12-step SHGs. More specifically, patients who believe in the disease model of substance use and have an abstinence goal and an alcoholic or addict identity tend to become more involved in SHGs and are less likely to drop out (Kelly and Moos 2003; Mankowski et a1. 2001). Patients with both Substance Use Disorders (SUDs) and posttraumatic stress disorder whose identity matched twelve-step philosophy participated more in SHG activities; more participation was associated with less distress for these patients but with more distress for patients who did not have a 12-step identity (Ouimette et al. 2001). Compared with men, women may be more in tune with 12-step philosophy, which involves acceptance of powerlessness over the abused substance and dependence on a higher power to attain sobriety.

Women with SUDs often report low self-esteem, an external locus of control, stable attributions (or failure, and frequent substance use when feeling powerless or inadequate. These personal characteristics are congruent with 12-step ideology, which expects individuals with substance use problems to admit

past wrongdoing, acknowledge inability to control substance use, and trust a higher power to achieve recovery. Importantly, however, Women for Sobriety is a self-help program that provides an alternative for women who prefer an emphasis on improving self-esteem, independence, and personal responsibility rather than powerless, humility, and surrender (Kaskutas 1996).

In a study that compared family members of patients with SUDs who attended AI-Anon with those who did not, the AI-Anon group improved more in family functioning; moreover, the 3-month relapse rate for patients whose family members attended AI-Anon was lower than that for patients whose family members did not attend (Friedemann, 1996). Another study showed that ACAs who had substance use problems and attended an ACA-specific mutual help group, which followed AI-Anon and twelve-step principles, reported more benefits from being an ACA member than did comparable individuals who attended substance abuse education classes. The group participants also declined more in depression and substance use; individuals who participated more intensively in the group experienced less stigma and more self-esteem at a 6-month follow-up (Kingree & Thompson 2000).

Affiliation with twelve-step SHGs also tends to promote more reliance on behaviorally oriented substance use coping processes. In this respect, Snow et al. (1994) found that individuals who were more involved in AA were more likely to rely on specific coping responses aimed toward reducing substance use, such as spending time with nondrinking friends, talking to someone about their drinking problems, rewarding themselves for trying to stop drinking, and becoming more aware of social efforts to help people stop drinking. Essentially comparable findings were obtained in the National Institute on

Drug Abuse Collaborative Cocaine Treatment study. Patients in individual drug counseling that emphasized twelve-step principles changed more in twelve-step beliefs and behaviours than did patients in supportive-expressive therapy and cognitive therapy, which placed less emphasis on twelve-step ideology. These patients also experienced better end of-treatment substance use outcomes; changes in patients' twelve-step beliefs and behaviors explained or mediated part of this effect (Crits-Christoph et al., 2003).

The effective ingredients of SHGs reflect the four critical factors that appear to aid long-term recovery from an SUD: (1) forming bonds and obtaining social support from new relationships, such as a new spouse or partner or a sponsor; (2) supervision or monitoring, such as by a sponsor or a spouse or partner, and the provision of positive consequences for continued remission; (3) involvement in rewarding activities that do not involve substance use, such as a program of exercise, spiritual or religious pursuits, or social and service activities and include helping other people; and (4) affi1iation with a group that provides a sustained source of hope, inspiration, and self-esteem, such as AA or a religion. Because of the emphasis on spirituality in twelve-step SHGs, there has been speculation that less religious or less spiritually inclined individuals may participate and benefit less from these groups. In fact, individuals with stronger religious beliefs are more likely to attend and become involved in twelve-step SHGs and are less likely to drop out (Kelly and Moos 2003; Timko et a1. 2006a).

In a 3-year study that examined the role of religiosity in AA, more spiritually oriented individuals reported attending more meetings than did secular individuals; in addition, secular and uncommitted individuals had a

sharper decline in AA involvement than spiritual and religious individuals did. These findings suggest that twelve-step SHGs are accessible but somewhat less engaging for more secular individuals (Kaskutas et a1. 2003).

Motivational interviewing therapy for alcohol consumption disorders

Brief Interventions

A primary function of brief interventions is to motivate people to initiate specific health-related behaviour changes. The target of the intervention may be the harmful health behaviour itself or consequences of that behaviour (e.g., alcohol-related problems). One of the best known of these time-limited strategies (one to five sessions) is motivational enhancement (Miller & Sanchez, 1994). This intervention is based on a non-authoritarian empathic approach that encourages people to take personal responsibility for change, provides objective personalized assessment results on the relative magnitude of the problem behavior, provides explicit advice on the direction to change, and delineates a menu of change options. Brief interventions are flexible in that they can be used to motivate a person to engage in treatment or they can be used as a stand-alone early intervention. Early evidence on the effectiveness of brief interventions in reducing or eliminating alcohol-related problems in adolescents indicates that they may be effective in reducing both drinking and its consequences (e.g., drunk driving) (Tevyaw & Monti, 2004).

In a study entitled, “Brief motivational interventions for heavy college drinkers: A randomized controlled trial” by Carey, Carey, Maisto and Henson (2006), 509 eligible students at Syracuse University were randomly assigned to one of six trial groups: (a) a basics group, (b) an assessment-only control group, (c) a modified basics group that also included a decisional balance

module, (d) a modified basics group with an additional Timeline Followback (TLFB) interview, (e) a control group that received only TLFB, and (f) a modified basics group that included both a decisional balance module and TLFB. Because the focus of the meta-analysis was on the basics program, the four groups that contained additional interventions were excluded and the analysis focused only on the unmodified basics (n = 85) and assessment-only control (n = 81) groups. In the Carey et al. study (2006), students at Syracuse University were screened and accepted for inclusion if they met a number of criteria. Students were selected if they (a) experienced 4 episodes of binge drinking in the past month (or an average of 1 per week), (b) were between the ages of 18 and 25, (c) were not yet seniors (to allow for follow-up data collection), and (c) were willing to be recontacted (Carey et al., 2006). Alcohol use data were obtained using a variety of measures, including a modified version of the Daily Drinking Questionnaire (DDQ) and the Rutgers Alcohol Problems Index (RAPI). Self-reports for binge drinking were also included, as were collateral interviews conducted with identified friends to corroborate reported drinking frequency and intensity. Follow-up data were collected at 1 month, 6 month, and 12 month intervals.

The results showed a relative weight of 46.58 with a great precision (narrower confidence interval), represented by shorter horizontal line cutting through the square. The conclusion was that basic treatment programme reduced alcohol consumption among the students.

Another study entitled, “Motivational interventions for heavy drinking college students: Examining the role of discrepancy-related psychological processes” (McNally, Palfai, & Kahler, 2005), 73 students at Northeastern

University were randomly assigned into either a BASICS treatment group or an assessment-only control group. Students were recruited from an introductory psychology course and inclusion criterion was an average of one episode of binge drinking per week. Of the 73 students, 37 students were placed in the BASICS group, and 36 were placed into the assessment-only control.

Alcohol consumption was assessed by a variety of measures, including a modified version of the Daily Drinking Questionnaire (DDQ), an open-ended questioning about binge drinking frequency, the AUDIT screen for hazardous alcohol consumption, and the Young Adult Alcohol Problems Screening Test. Retention of test participants was 100 percent and follow-up data were collected at a 6-week follow-up (McNally et al., 2005). The results indicated an average weight of 25.38 and the precision line crossed the null hypothesis (0.00). The conclusion was that, the treatment reduced alcohol consumption among the participants.

In a study titled Relative efficacy of a brief motivational intervention for college student drinkers" (Murphy et al., 2001), 99 Auburn University undergraduate students were randomly assigned to one of three groups: (a) a BASICS group, (b) an assessment-only control group, and (c) an educational intervention. For the purposes of the meta-analysis, only the BASICS group (n = 30) and the assessment only control (n = 25) were included in the statistical analyses. Measures used to assess drinking included the Alcohol Dependence Scale (ADS), the Daily Drinking Questionnaire (DDQ), and the Rutgers Alcohol Problem Inventory (RAPI). Students who scored in the 67th percentile of the screening sample in terms of drinks per week, as measured by

the DDQ, and those who reported two or more alcohol-related problems on the RAPI were included in the study and randomized into one of the groups (Murphy et al., 2001). The result for the study indicated a relative weight of 15.63 and a p value of .009. Precision was however poor and this was attributed to the small sample size of 54. The conclusion was that, the basic treatment reduced alcohol intake of the students.

A study conducted by (Borsari & Carey, 2000) on the "Effects of a brief motivational intervention with college student drinkers" was also reviewed. Participants were recruited from an introductory psychology class at Syracuse University. Students who reported that they had engaged in at least two instances of binge drinking within the past month were considered eligible for the study. Ultimately, 60 students were invited to participate in the study, 29 were assigned to the BASICS group, and 31 were assigned to the assessment-only control. At follow up, the BASICS group retained all 29 participants while the control group retained 30 of 31 participants. Assessment measures included the Drinking Norms Rating Form, a version of the Daily Drinking Questionnaire, and the Rutgers Alcohol Problem Index (RAPI). Students were assessed at baseline, and again at 6-week follow-up (Murphy et al., 2001).

It is worth noting that this is the only study that was included both in the present study's meta-analysis and in the Larimer and Cronce (2002) article that informed the NIAAA (2002) report. The result indicated p < the .05 threshold for demonstrating adequate robustness. There was relative weight of 16.66 and a poor precision attributed to the comparatively small number of 59.

The conclusion arrived at was that, the basic programme reduced binge drinking among the participants.

Consequences of alcohol consumption among university students

In general, excessive alcohol consumption leads to various negative consequences on body functions. For example, it causes impairments in cognitive functions, including poor decision making and impulsiveness, and motor skills including balance and movement (White & Hingson, 2014). In addition to the effects on body functions, excessive alcohol consumption is closely related to adverse social consequences including increased health care costs, unintentional injuries and violence, increased crime, and reduced work productivity (Sacks et al., 2013). These negative consequences of excessive alcohol consumption also apply to college students.

According to the National Center for Addiction and Substance Abuse (CASA) in 2007, 68.1% of students experienced missing classes, 52% of students experienced blackouts, and 21.3% of students engaged in unplanned sexual activity (CASA, 2007). In terms of duration, negative consequences are divided into two types: short-term and long-term consequences. Short-term consequences include injuries, risky sexual behaviours and interpersonal conflicts. Problems of college life such as missing classes and lower academic performance are examples of the short-term consequences of excessive alcohol consumption. Drunk-driving is also a high risk alcohol-related consequence among college students. According to research of Hingson and colleagues in 2009, approximately 2.7 million college students in the USA between 18 and 24 years old have driven while drunk (Hingson, Zha, & Weitzman, 2009). Long-term consequences include likelihood for the

development of alcohol use disorder later in life, chronic diseases, and even premature death (Lee, Chassin, & Villalta, 2013; White & Hingson, 2014). It implies that not only excessive alcohol consumption creates drinking related problems in the present, but also can make negative consequences later in life (O'Neil, Parra, & Sher, 2001).

The prevalence of overall alcohol consumption among college students is high in both males and females, the consumption by male students is greater than female students in general (O'Malley & Johnston, 2002). According to Velazquez and her colleagues, prevalence of binge drinking among female students in 2-year colleges was 26.2%, while prevalence of binge drinking among male students was 35.9%. Further, female students in 4-year colleges reported binge drinking at 31.7%, while 45.2% of male students reported the same (Velazquez et al., 2011). A Korean study in 2010 also showed a similar tendency in gender differences. Prevalence of alcohol consumption during the past month among male college students at 89.9% was higher than female college students at 82.6% (KARF, 2010).

Medical Consequences of Alcohol use

Alcohol use among adolescents causes multiple organ problems (Schinke, Schwinn, & Cole, 2006). Alcohol as a substance is readily absorbed from the stomach by the body via the small intestines; the second phase is then distributes to every body organ, tissue, and cells through the circulation (Cederbaum, 2012). Most of the circulating alcohol with in the blood is then been absorbed in the body by the liver (hepatocytes). This action is fast, and the alcohol gets broken down as a waste called carbon dioxide, water and into energy.

The chemical substances which are excreted through the body kidneys do account for about 95 to 98 per cent of the alcohol a human consumed. The other percentages escaped from the body unchanged through sweat, breath, and urine (WHO, 2011).

Medical consequences of alcohol can range anywhere from acute organ damage to chronic damage. Acute complications may be a situation which occurs soon after alcohol consumption; whiles chronic complications occur after prolong use. However, some complications may be reversed or treated soon after halting alcohol use, but others may be non- reversible and permanent (Vanderwaal et al., 2001; Nimako, 2011). The liver as an important organ is known to be primarily affected by alcohol (Osna, 2010). Heavy uncontrolled drinking can take a toll on the liver which eventually can lead to a number of problems such as liver inflammations, alcohol hepatitis, fibrosis and cirrhosis (Blachier, Leleu, Peck-Radosavljevic, Valla, & Roudot-Thoraval, 2013).

Alcohol liver disease (ALD) is the most common and most serious complication of long term alcohol use (Osna, 2010). The ALD have been identified into stages; Stage 1, known as alcoholic fatty change, is characterized by the deposition of fats in the liver making it enlarged. Stage 2 is characterized by progressive liver damage leading to jaundice. The stage is referred to as alcoholic hepatitis.

Alcoholic pre-cirrhosis is the third stage, with liver damage. The stage four is the permanent liver damage, often referred to as the alcoholic cirrhosis (Thomson, Westlake, Rahman, Cowan, Majeed, Maxwell & Kang, 2008). Liver dysfunction of any of the first three stages above can be reverse after a

period of 3-4 weeks when you observe abstinence from alcohol, but for the fourth stage it is deadly on the other hand and is irreversible. Cirrhosis can lead to additional complications like vomiting blood, spleen enlargement and even death (Zakhari, 2006).

Alcohol always interferes with the brain in the communication pathways (Witt, 2010), affecting the way the brain functions. These adverse disruptions of the Central Nervous System can change the mood and behaviour, and makes it difficult to think or reason out things clearly and move with coordination. During adolescent, alcohol leads to the structural changes observed in the hippocampus (a part of the brain involving learning process (De Bellis et al., 2000). If care is not taken, high levels can render a permanently impairment of the brain development (Spear, 2000).

Drinking excessively or much on a single dose occasion at any time can damage the heart muscles causing problems which may include cardiomyopathy; stretching and drooping of the heart muscles, many other symptoms ranging from the chronic shortness of breath to the heart failure (Room, Babor, & Rehm, 2005; Shirref, 1997). Other complications include arrhythmias (irregular heartbeats), stroke, and high blood pressure. Although alcohol as a substance is absorbed mainly through the body from the small intestine, the undeviating effect on to the inner lining of the human stomach leads to a condition known as acute gastritis (McCarthy, Niculete, Treloar, Morris & Bartholow, 2012). This attack in an acute phase often leads to vomiting. Repeated damage to the stomach lining can lead to hyperacidity known as peptic ulcer (Teyssen & Singer, 2003). Excessive or prolong alcohol can also lead to stomach cancer (Franke, Teyssen, & Singer, 2005),

Pancreatitis is an acute inflammation to the pancreas and usually triggered by binge drinking, and symptoms being presented as piercing pain in the belly. Pancreatitis can result inability to digest food. Long term alcohol consumption leads to a decrease production of the white blood cells, a condition which weakens the immune system leading to the easier target for diseases (Szabo, 1997). Chronic drinkers are in many cases more liable to contract such diseases like pneumonia, tuberculosis, than people who do not drink much (National Institute of Alcohol and Alcoholism, 2001).

Adding to the long list of effects of alcohol is poor diet (WHO, 2003). This is more observable in poor communities where alcohol is of pitiable quality, the wellbeing of this people can be further affected which will be leading to a vicious cycle of uncontrolled alcohol consumption and poor health. The wealthy human class can consume fairly a substantial huge amount of alcohol and have no direct complications from alcohol. However, the heavy alcohol consumption coupled with rich diet can in most cases lead to obesity, an associated complications called diabetes and hypertension (Scarborough et al., 2011)

Psychiatric Consequences of Alcohol

When compared to adults, adolescents use of alcohol is much more likely to be heavy (Danielsson, Wennberg, Hibell, & Romelsjö, 2012), which makes alcohol use by that age group very treacherous. According to Brausch and Gutierrez, (2010), alcohol use disorders are a threat factor to suicide attempts, also found an association between lower minimum legal drinking age and suicide. The Psychiatric medical conditions are most likely to be co-occurring with alcohol usage among adolescents population include mood

disorders, predominantly depression; attention deficits or hyperactivity disorder; anxiety disorders; conduct disorders; bulimia; and schizophrenia.

Social Consequences of Alcohol Use

Alcohol use among youths is the principal contributor to adolescent death (that is, motor vehicle crashes, homicide, and suicide) in the United States (National Institute of Alcohol Abuse and Alcoholism, 2009). Many motor vehicle accidents account for the most leading cause of death for American youths. The Youth Risk Behaviour research conducted in the United States revealed that in the 30 days preceding the research, there was a 29.1% of student population nationwide who had ridden one or more times in a vehicle either driven by themselves or another person who had been drinking alcohol. About the figure of 10.5% students reported that they had driven a car by themselves or other vehicle driven by someone else at least once when they drink alcohol (Clarks, 2004). The Center for Disease Control and Prevention (1991) came up with a remarkable hypothetical connection under the influence of alcohol leading to motor vehicle accidents which involved adolescents and the youthful population; and confused the fact that, afterwards the legal drinking age was moved to 21 years for the young generation in the United States. The death toll for individuals younger than 21 years in the states then significantly reduced.

Teenagers who do drink and drive are lesser than adults, but the risk of accidents amongst this group is higher than those of adults who drink and drive (American Academy of Pediatrics, 2008). Researchers have consistently reported to the association of alcohol use with other risky behaviours like physical assault, sexual behavioural risk-taking and other substance use

(Simkin, 2002; Clark, 2004; Champion et al, 2004). According to Bonomo (2001), adolescent alcohol use is associated with increased automobile accidents and injuries sustained which leads to death, suicide, absenteeism, poor academic performance, loss of consciousness, memory blackouts, involvement to fighting, property damage, peer criticism and broken friendships, date rape and unprotected sexual intercourse that places the adolescents at risk of STD"s, HIV infection and unplanned pregnancy.

Alcohol is implicated in relationship breakdown, domestic violence and poor parenting, including child neglect and abuse (Frimpong-Mansoh, 2013). Family members of people who are alcohol dependent have high rate of psychiatric morbidity, and growing up with someone who misuse alcohol increases the likelihood of teenagers taking up alcohol early and developing alcohol problems themselves (Latendresse, 2010).

In a related study in Ghana, 15.1% of high school students who reported to have taken alcohol, also reported getting drunk and getting into problems with their friends, family or fighting with their friends (Owusu, 2008). In most adolescent alcoholism treatment studies, developmental criteria have been limited to age and grade as indicators of position along the developmental continuum. However, there is growing recognition of the important contribution that developmentally specific theories, models, and methods can make to the design of innovative and more effective adolescent treatment strategies, outcome measures, and evaluation (Brown, 2004).

Another study chosen for inclusion in the study is entitled, "Screening and brief intervention for high-risk college student drinkers: Results from a 2-year follow-up assessment" (Marlatt et al., 1998).

Students deemed at risk for heavy drinking after being screened in their senior year of high school were randomly assigned to a BASICS intervention group or a no treatment control upon their matriculation to the University of Washington. The total N at the beginning of the study was 348, and follow-up data were collected throughout a 2-year period. Assessment measures included 6-point scales designed to measure drinking frequency and peak consumption, the Daily Drinking Questionnaire (DDQ), The Alcohol Dependence Scale (ADS), and the Rutgers Alcohol Problem Inventory (PARI).

A structured interview was also conducted an assessment of both behavioral problems and family history of alcohol drinking problems. Finally, collateral assessments were conducted via the telephone to corroborate the responses given by participants. The case is no different in Ghana. Boakye, (2006), writing on Ghanaian school discipline observes that drugs including alcohol are the main causes of indiscipline in many Ghanaian schools. These increase restlessness, excitability and hyperactivity. Students with chronic indiscipline problems tend to alcohol, crack cocaine and antidepressants leading to lethargic, apathetic behaviour or an urge to incite erratic and dangerous behaviour.

Osei, (2009) states that even for a country that is as religious as Ghana, people still drink a lot of alcohol. In her article, she states that seventy five percent (75%) of Ghanaians profess Christianity and most of the religious denominations frown on excessive drinking or preach abstinence from alcohol. Another fifteen percent (15%) of the population are banned from alcohol completely by the doctrine of Islam.

Yet the nation's total alcohol consumption cannot be attributed to the remaining ten percent (10%). Companies that produce alcoholic beverages also support concerts, festivals, competitions and also sponsor sporting activities of all kinds. These strategies are targeted at creating awareness for their products, increasing their sales volume and eventually recover the cost incurred. In Ghana, companies that produce alcoholic beverages spend millions of cedes annually on advertisement and other marketing activities, including promotions and discounts. All these activities, to some extent contribute to alcohol intake by the youth who are vulnerable, increase drinking-related problems for individuals and societies as a whole.

Heath (2000) also holds the view that it is commonly believed that in many cultures alcoholic beverages have only been introduced fairly recently. There are, however, very few societies where alcohol beverages have not been enjoyed as part of local culture, as part of family and village life, or as part of religious and spiritual life long before written history. Nevertheless, there has clearly been an increase in consumer choice in many countries in the past couple of centuries, with the introduction of branded products where few existed before. The very high visibility of alcoholic beverage advertising for branded products gives false impression that these are the most frequently consumed alcohols. This obscures continuing popularity of non-commercial and traditional forms of alcohol.

Anderson (2009) also supports this notion and is of the view that humans have been acquainted with alcoholic beverages for centuries and that many writings on alcohol emphasize this long history and, therefore, one should not worry about contemporary youngsters who drink alcoholic

beverages. Ancestors knew of harmful effects of alcohol so many years ago. Little has changed in the ingredients of alcoholic beverages. Like wine and hard liquor, beer has had a similar taste for centuries. These beverages are produced according to ancient procedures, for which little modern craftsmanship is required. The consequences of harmful use of alcohol cannot be denied in the present world. It has social, health, economic, psychological and many other consequences.

In Ghana, consumption of the locally made gin has been linked to an increase in violence in local communities (Luginaah & Dakubo, 2003). In many schools in Nigeria, cult clashes have been on the increase and youth cruelly maim their rivals with dangerous weapons. This has been linked to the fact that alcohol is hazardously used among Nigerian youth and this includes undergraduates (Adewuya, 2005). Bonomo et al (2001) reported that alcohol consumption among the youth represents a serious health concern. Underage drinking is associated with a number of negative health and social consequences such as impaired brain development, suicide and depression, loss of memory, high risk sexual behaviour, addiction, impaired decision making, poor academic performance, violence and motor vehicle accidents (injuries and fatalities).

Summary of Literature Review

The literature reviewed covered conceptual framework, theoretical, empirical reviews. The main points that emerged are that, although there exist intervention studies, the ones sighted by the researcher are all foreign literature. More so, the focus of most of the studies has been on the factors influencing alcohol consumption, the socio-economic impact, the proportion

of consumption among the youth, men and women and prevalence of alcohol consumption. The age, religion and gender factors were not popular. There was also the no sight of the application of existing counselling therapies to remedy the situation in Ghana. Studies of the phenomenon among university students however were sighted although survey studies. It is therefore based on the implications of the literature reviewed, that the researcher developed an intervention approach to this study and also with a focus on age, gender and religion as a way of filling the gaps identified in the literature in order to add to knowledge.

CHAPTER THREE

RESEARCH METHODS

Introduction

This study sought to establish the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among university students in the Central Region, Ghana. This chapter elaborated the research methods for the study. It presents the philosophical foundation for the study and its corresponding research approach. It also covers the research design, population, sample and sampling techniques, data collection instrument, data collection procedures and how data was analyzed.

Philosophical Foundation

Philosophical ideas remain largely hidden in research (Slife & Williams, 1995); they still influence the practice of research and need to be identified. A researcher's philosophical worldview is influenced by multiple factors such as general philosophical orientation, the nature of research, discipline orientations, students' advisors or mentors inclinations, and past research experiences (Creswell, 2014).

Post-positivism or Positivism could be regarded as a research strategy and approach that is rooted on the ontological principle and doctrine that truth and reality are free and independent of the viewer and observer. A good number of researchers and intellectuals who are concerned with the viewpoint and philosophy of investigation and research concur with this explanation and definition. The self-governing, independent and objective existence of truth can be seen as a definition and meaning of positivism in a number of write-ups (Goetz & LeCompte, 2004; Gough, 2005; Griffin, 2006; Venkatesh, 2007).

Post-positivism because it represents the thinking after positivism, challenging the traditional notion of the absolute truth of knowledge (Creswell, 2014; Phillips & Burbules, 2000) and recognizing that one cannot be positive about claims of knowledge when studying the behaviour and actions of humans. It is based on these factors and beliefs that the current researcher adopted the post-positivist paradigm to the study. The post-positivist tradition comes from 19th-century writers, such as Comte, Mill, Durkheim, Newton, and Locke (Smith, 1983) and more recently from writers such as Phillips and Burbules (2000).

Post-positivists hold a deterministic philosophy in which causes (probably) determine effects or outcomes. Thus, the problems studied by post-positivists reflect the need to identify and assess the causes that influence outcomes, such as found in experiments. It is also reductionistic in that, the intent is to reduce the ideas into a small, discrete set to test, such as the variables that comprise hypotheses and research questions. The knowledge that develops through a post-positivist lens is based on careful observation and measurement of the objective reality that exists "out there" in the world. Thus, developing numeric measures of observations and studying the behaviour of individuals becomes paramount for a post-positivist. Phillips and Burbules (2000), states the key assumptions of this position as: Knowledge is conjectural (and antifoundational) absolute truth can never be found. Thus, evidence established in research is always imperfect and fallible. It is for this reason that researchers state that they do not prove a hypothesis; instead, they indicate a failure to reject the hypothesis. Some writers employ diverse terms to indicate this ontological standpoint, for example "realism" or "objectivism"

(Neuman, 2006; Polgar & Thomas, 2005; Rorty, 2007; Shafer, 2004; Weber, 2004). These scholars classically view positivism as encompassing epistemological (Neurath, 2003; Olaison, 2001; Popper, 2008), methodological (Patton, 2002; Weber, 2009), and occasionally other idealistic and philosophical features, such as principles, morals and ethics (Putman, 2006).

Positivism depends on quantifiable observations that lead themselves to statistical analysis. It has been noted that "as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human experience. It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner" (Collins, 2010). Crowther and Lancaster (2008) inform that as a general rule, positivist studies usually adopt deductive approach, whereas inductive research approach is usually associated with a phenomenology philosophy. Moreover, positivism relates to the viewpoint that researcher needs to concentrate on facts, whereas phenomenology concentrates on the meaning and has provision for human interest.

Research Approach

Following the philosophical worldview, quantitative research approach was used for the study. Quantitative research is an approach for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures. The final written report has a set structure consisting of introduction, literature and theory, methods, results, and discussion.

Like qualitative researchers, those who engage in this form of inquiry have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings (Creswell, 2014).

Most quantitative research, for example, start with the test of a theory. Data, evidence, and rational considerations shape knowledge. In practice, the researcher collects information on instruments based on measures completed by the participants or by observations recorded by the researcher. The research seeks to develop relevant, true statements, ones that can serve to explain the situation of concern or that describe the causal relationships of interest. In quantitative studies, researchers advance the relationship among variables and pose this in terms of questions or hypotheses. Being objective is an essential aspect of competent inquiry; researchers must examine methods and conclusions for bias. For example, standards of validity and reliability are important in quantitative research. Since the current study sought to test existing objective theories (twelve-step facilitation and motivational interviewing treatments), the quantitative approach was deem most appropriate. There are three broad classifications of quantitative research: descriptive, experimental and causal comparative (Leedy & Ormrod, 2001). While paradigms could be drawing out in straightforward cognitive terms, their natural world is far better-off: as Ogilvy (2006) reveals, they are more concerned with models, mythology, frame of mind and descriptions (Venkatesh, 2007).

Research Design

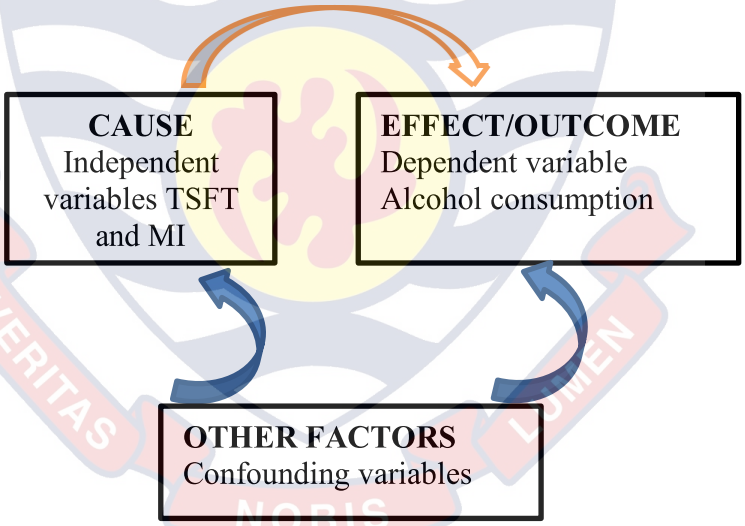
Research design is the blueprint for conducting the study that maximizes control over factors that could interfere with the validity of the findings. Designing a study helps a researcher to plan and implement the study in a way that will help him or her to obtain intended results, thus increasing the chances of obtaining information that could be associated with the real situation (Burns & Grove, 2001). Experimental research seeks to determine if a specific treatment influences an outcome. A researcher assesses this by providing a specific treatment to one group and withholding it from another. Experiments include true experiments, with the random assignment of subjects to treatment conditions, and quasi-experiments that use nonrandomized assignments (Keppel, 1991). During the experimental research, the researcher investigates the treatment of an intervention into the study group and then measures the outcomes of the treatment. There are three types of exploratory approaches: pre-experimental, true experimental, and quasi-experimental (Leedy & Ormrod, 2001).

Quasi-experimental design

A quasi-experimental design, by definition, lacks random assignment. However, assignment to conditions (treatment versus no treatment or comparison) is by means of self-selection (by which participants choose treatment for themselves) or administrator selection (e.g., by officials, teachers, policymakers, and so on) or both of these routes. Quasi-experimental designs identify a comparison group that is as similar as possible to the treatment group in terms of baseline (pre-intervention) characteristics. The comparison group captures what would have been the outcomes if the

programme or policy had not been implemented (i.e., the counterfactual). Hence, the programme or policy can be said to have caused any difference in outcomes between the treatment and comparison groups (Shadish, Cook & Campbell, 2002).

Quasi-experimental design was adopted for this study owing to the fact that it involves humans in which one cannot control all the internal and external validity because of the human element. The study also lends itself to empirical observation via human senses. Moreover, inductive reasoning will be used to develop statements (hypotheses) to be tested during the research process. Finally, the research aims to explain and predict the phenomenon of alcohol consumption (Shadish et al, 2002)



The quasi-experimental design is illustrated below as a comparison group pretest/posttest

Treatment	O1	X	O2
	O3	X	O4
Control	O5		O6

O1, O3 and O5 pre-test data will be collected. O2, O4, O6 post-test data will be collected. 'X' = treatment/counselling.

Quasi-experimental research may be more feasible because often it does not have the time and logistical constraints associated with many true experimental designs. True experimental designs are sometimes impractical or impossible because the research can only effectively be carried out in natural settings. Experimental research can create artificial situations that do not always represent real-life experiences. This is largely due to the fact that all other variables are tightly controlled which may not create a fully realistic situation. For this reason, external validity is increased in quasi-experimental research. It reduces the difficulty and ethical concerns that may surround the pre-selection and random assignment of test subjects. For example, if examining the effects of cigarette smoking by pregnant women on the fetus, it would be unethical to randomly assign pregnant women to groups. This is because, not all pregnant women engage in smoking of cigarette. Quasi-experimental approaches may reduce the time and resources required because extensive pre-screening and randomization is not required or utilized (Leedy & Ormrod, 2001).

The lack of random assignment into test groups leads to non-equivalent test groups which can limit the generalizability of the results to a larger population. Besides lack of randomization and the reduced internal validity, conclusions about causality are less definite in quasi-experimental designs. Statistical analyses may not be meaningful due to the lack of randomization and the threats to internal validity. Pre-existing factors and other influences are not taken into account because variables are less controlled in quasi-experimental research (White & Sabarwal, 2014).

No experimental research project is perfect or free from potential threats to validity, and it is even more important in quasi-experimental studies because the lack of random selection of test subjects creates uncertainty. Researchers must take the necessary steps to ensure that the threats are controlled as best as possible. Some of the extraneous variables when using quasi-experimental design are:

History – This refers to unplanned events that may occur during a study that impact the results unintentionally. Test subjects often have different experiences as the study progresses that may have an influence. For example, if doing a pretest and a post-test assessment at the beginning and end of an intervention for two different groups to compare test results, one group may have a different classroom atmosphere or dynamic that influences the post-test results (Shadish et al., 2002)

Maturation – Natural changes, biological or psychological, within the participants over the time of the study may impact the results. Test subjects may become bored, tired, hungry, and so forth during the time of the study (Shadish et al., 2002)

Testing – Experiments that pretest the subjects may influence the performance of subjects on subsequent tests simply due to the fact that participants have already seen or completed the test before. People tend to perform better at any activity the more they are exposed to it (Shadish et al., 2002).

Experimental Mortality – Test subjects drop out of studies for a variety of reasons. The loss of participants from comparison groups may impact the study if the withdrawal or mortality rate is higher in one group or if

it is particularly high in both groups. For example, a larger number of participants may drop out of a group due to illness while several less motivated participants drop out of the other group. The groups no longer have a similar make up of individuals (Shadish et al., 2002).

Selection Interaction – The selection method may interact with one or more of the other threats and impact results. For example, groups with larger numbers of elderly participants may be impacted more by maturation during the study. The best way to address these threats may be to add a control group to the design to compare results. This would provide additional control to ensure that something else is not also contributing to the results. A control group would allow for comparison with other similar groups to rule out the impact.

A researcher would have to examine other campus events or activities that may be impacting students' behaviour with regards to change in alcohol consumption (Shadish et al., 2002). Another step the researcher intends to adopt to control extraneous variables is to use the ABA or reverse design. The ABA refers to sequences in which the participants are measured without treatment (A), measured again after treatment (B), measured a third time when treatment has been withdrawn. If the treatment is effective, then there will be improvement from the first segment (A) to the second (B) and then deteriorate again when the treatment is withdrawn (Shadish et al, 2002).

This pattern will increase the confidence that change in the students behaviour were due to the treatment and not maturation, history effects or any other threat to validity.

Study Area

The study was conducted in Ghana. Ghana is a country in Africa. The study focused on the Central region of Ghana. The Central Region is one of the ten administrative regions of Ghana. It is bordered by Ashanti and Eastern regions to the north, Western region to the west, Greater Accra region to the east, and to the south by the Gulf of Guinea.

The University of Cape Coast is a prestigious public collegiate research university located in Cape Coast, Ghana. The university was established in 1962 out of a dire need for highly qualified and skilled manpower in education. The university, which is five kilometers west of Cape Coast, is on a hill overlooking the Atlantic Ocean. Two of the most important historical sites in Ghana, Elmina and Cape Coast Castle, are only a few kilometers from the university. It was established to train graduate teachers for second cycle institutions such as teacher training colleges and technical institutions, a mission that the two existing public universities at the time were unequipped to fulfill. The university has since added to its functions the training of doctors and health care professionals, as well as education planners, administrators, and agriculturalists (Cartographic section, UCC). The University of Cape Coast is the third largest university in Ghana. It is organized into six (6) colleges namely; College of Education Studies, College of Distance Education, College of Health and Allied Sciences, College of Humanities and Legal Studies, College of Agriculture and Natural Sciences and the School of Graduate Studies. The university has seventeen (17) faculties and schools and one hundred (100) departments offering diploma, bachelor, masters and doctoral programmes.

It operates on two main campuses: the Southern Campus (Old Site) and the Northern Campus (New Site) including eighty six (86) distance education study centres across the nation.

The University of Education, Winneba (UEW) was established in September, 1992 as a University College under PNDC Law 322. On 14th May, 2004 the University of Education Act, Act 672 was enacted to upgrade the status of the University College of Education of Winneba to the status of a full University. The University College of Education of Winneba brought together seven diploma awarding colleges located in different towns under one umbrella institution. These Colleges were the Advanced Teacher Training College, the Specialist Training College and the National Academy of Music, all at Winneba; the School of Ghana Languages, Ajumako; the College of Special Education, Akwapim-Mampong; the Advanced Technical Training College, Kumasi; and the St. Andrews Agricultural Training College, Mampong-Ashanti. The three sites in Winneba now referred to as the Winneba campus is the seat of the Vice-Chancellor with satellite campuses at Kumasi, Mampong and Ajumako. The University of Education, Winneba, seeks to play a role in Ghana's drive to produce scholars whose knowledge would be fully responsive to the realities and exigencies of contemporary Ghana. The University has fourteen (14) faculties and fifty nine (61) academic departments and institutes. It also has forty (40) distance education study centres throughout Ghana.

The Cape Coast Technical University is a public tertiary institution in the Central Region of Ghana. The new Polytechnic Act of 2007, Act 745 has given the University the mandate to run degree programmes.

It is situated about 5km from the Pedu Traffic Lights off the main road linking Cape Coast and Twifu Praso. Currently, as a Technical University, and per the Technical Universities Act, 2016, Act 922, as amended, Cape Coast Technical University (CCTU) is mandated to provide higher education in Engineering, Science and Technology based disciplines, Technical and vocational Education and Training, Applied arts and related disciplines. The aim is to train its students to be academically and technically balanced in order to match the challenges of the new century. The technical university has three (3) main schools and thirteen (13) different departments offering higher national diploma and bachelor degree programmes.

Population

Population is defined by Polit and Beck (2004) as the aggregate or totality of those conforming to a set of specifications. A research population is generally a large collection of individuals or objects that is the main focus of a scientific query.

The population of the study comprised all regular undergraduate students of the three public universities in the Central Region, namely, University of Cape Coast, University of Education, Winneba and the Cape Coast Technical University. This group of students has average age brackets between 16 – 30 years approximately. They are made up of both males and females. They are mainly unemployed and are in school full time. The population for the study was made up of all level 300 regular students in the three public universities in the Central Region totaling nine thousand, nine hundred and twenty two (9,922). Although the final year (level 400) could have been the most suitable, they were not considered because; they were

almost exiting the university system and might not be available for the intervention sessions. In their absence, the third year group of students was considered because; the level 300 (third year) students were more assimilated in the university system and campus life than the first and the second years. They are therefore more likely to be engrossed in the phenomenon than the rest of the students. It was in the light of these factors that the third year students were considered as the most appropriate for the study.

The Central Region of Ghana was considered owing to two factors. Firstly, the study is an intervention study which demanded that the researcher meets with the participants regularly for a period of time, unlike a survey study, where data could be collected once or just twice. At the time of the study, the researcher was based in the Central Region. The implication is that, if the study groups should be dispersed across the nation, it was going to take more time for travelling and longer time to complete the work. However, taking cognizance of the fact that, the study was an academic work and therefore time bound, the location of the researcher at the time was considered to aid a thorough work and a timely completion.

Secondly, the focus of the study was on behaviour and more specifically alcohol consumption behaviour of university students on university campuses. University campuses can be said to be cosmopolitan in nature, where students with diverse backgrounds be it gender, religion, age, or economic status can be found. It goes to suggest that, problem behaviour is not synonymous to a particular university. All forms of conduct, the good, the bad and the ugly can and do occur in every university campus in Ghana. The implication therefore, is that, the attributes, characteristics or features for

which reason it would have been desirable to cover other regions can still be obtained or found in the universities under this study.

Sampling Procedure

A sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Webster, 1985). When dealing with people, it can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey. Due to the large sizes of populations, researchers often cannot test every individual in the population because it is too expensive and time-consuming. This is the reason why researchers rely on sampling techniques. Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

Purposive sampling technique was used to settle on level 300 students for the study. It was the researcher's believe that, final year students (level 400) would have been the most appropriate for the study owing to assimilation of the phenomenon haven spend more years in the university, however, because the study was going to be an intervention study, coupled with the fact that the final years were exiting and might not be available for the intervention, the next group considered for the same assimilation factor was the third years students, hence the choice of level 300 students for the study. Simple random sampling technique was used to select one department from each of the three universities. The same technique was used to select one academic programme in each of the three departments. The details of the population and sample are shown in Table 1

Table 1- *Distribution of population and sample*

University	Level	Population	Accessible Population	No. who Qualified	Final Sample size
UCC	300	4, 653	160	34	20
UEW	300	4,382	153	30	20
CCTU	300	887	57	23	20
Total		9,922	370	87	60

The total population of level 300 regular students from the three public universities in the region was nine thousand, nine hundred and twenty two (9,922). This was followed with simple random sampling to select one department and one academic programme in each of the three universities. Based on this, Social Science education, Social Studies education and Marketing programmes were selected.

The accessible population for these programmes or intact groups, that is, (UCC - Social science 160), (UEW - Social studies education 153), and (CCTU – Marketing 57) were all administered with the questionnaire, totaling 370. Out of this 370, 34, 30 and 23 totaling 87 for UCC, UEW, and CCTU respectively were found to be high on alcohol (i.e. risky and abuse levels of alcohol consumption). Subsequently, twenty (20) students each from the three universities, making a final sample size of sixty (60) were selected using simple random sampling technique for the intervention.

Inclusion for the intervention was based on two criteria. One was risky level of alcohol consumption and the second being abusive level of alcohol consumption. From the data collected on the accessible population of 370, 283

were recorded for healthy level, 46 for risky level, 41 for abusive level and 0 for dependence level, implying that one of the respondents fell within the dependence level. Per the breakdown above, risky and abuse levels, totaling 87 was the actual number that met the inclusion criteria. However, from the 87 students who met the inclusion criteria, 60 were selected using simple random sampling technique. That is, 20 participants per group for three groups (two treatment groups and one control group) for the intervention.

The determination of the number per group was influenced by Creswell (2012) who asserts that, approximately 15 participants in each group is desirable for experimental study in education. Again, the intervention was based on the principles of group counselling. One of principles is that, the number of participants for group counselling should be relatively small in order to promote the quality of the counselling sessions. A number of researchers have indicated that, the number for group counselling can range from 15 to 20 (Kagu, 2010; 2017; Ohanaka & Ofuani, 2018). Similarly, Adzaku, Awabil and Forde (2017), in an intervention study conducted in Ghana also used 20 participants per group.

Although three different universities were used for this study, the point need to be made that, these three universities are similar on many grounds. Apart from the fact that, they are all Ghanaian public universities, they are also located in the same region (the Central Region) of Ghana. They are therefore exposed to relatively same kind of weather conditions. The two towns that habour these three universities, that is Cape Coast and Winneba, are all exposed to the sea. Similarly, they all fall under the Ministry of Education and also regulated by the National Council for Tertiary Education

(NCTE) and the National Accreditation Board (NAB). This implies that, the same level of quality assurance is demanded from these institutions.

Data Collection Instrument

Instrumentation refers to the tools or means by which investigators attempt to measure variables or items of interest in the data-collection process. It is related not only to instrument design, selection, construction, and assessment, but also the conditions under which the designated instruments are administered. The instrument is the device used by investigators for collecting data (Salkind, 2010).

Alcohol Consumption Inventory A.C.I. (Appendix A) was the instrument used to collect data for the study. The A.C.I. was adapted from the Alcohol Use Disorder Identification Test (AUDIT), an originally ten-item questionnaire developed by the WHO. It was developed as an instrument that would identify individuals who were drinking alcohol at harmful or hazardous levels before they sustain alcohol related harm or develop physical dependence. It has cross-cultural applicability. It also has sufficient uniformity in patterns of alcohol consumption amongst culturally diverse groups to warrant the development of a single standardized instrument. Research finding indicate that, the AUDIT is a useful screening instrument and is accurate at detecting hazardous drinkers from a range of cultural groups (Saunders, Aasland, Amundsen & Grant, 1993). The AUDIT is designed as a self-report measure. It is scored by adding each of the 10 items. Items 1 to 8 are scored on a 0–4 scale; items 9 and 10 are scored 0, 2, 4. A score of 10 or above is suggestive of alcohol problems. In the one study in which time of administration was recorded, the AUDIT took 2 minutes to complete when

presented by computer (Hays et al., 1995). The pen and paper version takes between 2–5 minutes (Claussen and Aasland, 1993). The AUDIT may be used by any health worker who requires a reliable and brief screening instrument to identify an individual with alcohol problems. It is particularly appropriate for a primary health care setting as a screening instrument and would be usefully incorporated into routine history taking.

The instrument was adapted in the sense that, portions of the original instrument were altered. For instance, the instrument originally did not have age, gender and religion as demographics, but for the purposes of this research, those demographic characteristics were introduced. More so, during the pre-test, it was discovered that, the question item two, which states "How many drinks containing alcohol do you have on a typical day when you are drinking?" the options available for selection were (1 or 2, 3or 4, 5 or 6, 7 to 9 and 10 or more). All of these were revealed through the pre-test and it helped to reconstruct the instrument. The implication of the realization was that, every single respondent drinks alcohol and so this was altered by introducing "none" into the options and pairing 1 to 3, 4 to 6 and then 7 to 9, 10 or more into the instrument. Owing to these alterations, the new adaptation was pre-tested to ensure reliability. The question items were selected from seven conceptual domains: gender (item 1), age (item 2), religion (item 3), alcohol consumption (items 4-6), drinking behaviour (items 7-9), adverse reactions (items 10-11) and alcohol related problems (items 12-13). The scoring and interpretation of the AUDIT were however adopted.

The scoring and interpretation had four components. Scores ranging from (0-7) is interpreted as healthy consumption, (8-15) interpreted as risky

consumption, (16-19) interpreted as abusive consumption and (20-40) interpreted as dependence. For this study, the focus was on risky and abusive consumption levels. Questionnaires are appropriate because, they can be carried out by a researcher or by any number of people with limited affect to its validity and reliability. Also, the results of the questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package. It can also be analyzed more scientifically and objectively than other forms of instruments. Also, when quantified, data can be used to compare and contrast other research and may be used to measure change. Finally, the positivists believe that quantitative data can be used to create new theories and or test existing hypotheses.

There are, however, some limitations that come with using questionnaires. It is said to be inadequate to understand some forms of information, example, changes of emotions, behaviour, feelings etc. Phenomenologists state that, quantitative research is simply an artificial creation by the researcher, as it is asking only a limited amount of information without explanation. In other words, it does not allow the respondents to explain their views. Also, there is no way to tell how truthful a respondent was since the emotions, facial and body language will be missing. People may read differently into each question and therefore reply based on their own interpretation of the question - i.e. what is 'good' to someone may be 'poor' to someone else, therefore there is a level of subjectivity that is not acknowledged.

Validity

Both face and content validity of the instrument were assured. Validity of a research tool measures the accuracy of the tool. It is the degree to which an instrument measures what is supposed to measure (Hinton et al, 2004; Perez, Arnould, Bosch, Guillemin, Bravo, Brun & Tonne, 2009; Anthony, 2011). The face validity was carried out to determine the degree to which experts and respondents view the content of the instrument and its items as relevant to the context in which the instrument is being administered.

To achieve this, the instrument was given to other researchers who were all postgraduate students to check the appropriateness, sensibility, or relevance of the items as they are likely to appear to the persons answering the test. In the cost of the pre-testing, the students were also asked to look out for how meaningful the items were to them. With respect to content validity of the data collection instrument, which is the Alcohol Consumption Inventory (A.C.I), the instrument was given to two supervisors and two other measurement and evaluation experts who checked for the extent to which the items in the instrument were fairly representative of the domain the instrument sought to measure.

Reliability

Reliability measures the consistency of the research tool. Reliability is the degree to which the given concept of measurement produces the same results with the same tool (Best & Kahn, 2006). There are three prevalent methods of measuring reliability of a questionnaire; test re-tests method, split-half and internal consistency method (Cohen, Manion & Marrison, 2012).

In this study, internal consistency method was used to determine the reliability of the instrument. The questionnaire was pre-tested before using it for the main work and the level of reliability obtained was 0.86.

Pre-testing

To establish the reliability of the questionnaire (A.C.I.) pre-testing was carried out among 60 randomly selected level 300 regular psychology students of the University of Ghana. Ethical issues were discussed with the participants before the pre-test was conducted. This group of students bared the same characteristics as the group that was used for the main work. The pre-testing afforded the researcher a pre-knowledge of the challenges that were to be encountered with the main study and so steps were taken to correct the defects. For instance, the pre-testing enabled the researcher to identify some ambiguities and some conflicting components in the context of the instrument and made amendments to the questionnaire before using it for the actual study. Using Cronbach's Alpha, the instrument yielded an alpha level of 0.86 which was an indication that, the instrument was reliable.

Ethical Considerations

Owing to the sensitive nature of the phenomenon under study, high ethical standards were upheld in the data collection process. An introductory letter was obtained from the Department of Guidance and counselling which officially introduced the researcher to the institutional Review Board (Appendix H) and approval was sought from the Institutional Review Board of the University of Cape Coast as well (Appendix I) leading to clearance for the study by the Institutional Review Board (Appendix J).

The relevant officials such as Deans of students and lecturers involved and the students in the respective departments of the universities were briefed on the purpose of the study and participants' consent obtained before embarking on the study. The participants were handed a detailed consent form which is written in English language for their individual reading and questions. Those who read and willingly signed the consent form were the only ones involved in the study. The participants were required to participate in the study at three different phases of the study. They were briefed on what was expected of them at each phase

Data collection procedures

The first set of baseline data (pre-intervention) was collected in the month of February 2018 at midmornings during lecture hours at the lecture halls. The baseline data was collected once in all the three universities by the principal researcher with the aid of two trained research assistants. The second set of data collection which was the treatments (intervention) was carried out between March and April 2018. The third set of data collection (post intervention) was undertaken in the month of May 2018 during the final group counselling session day for the two treatment and one control groups in the respective university campuses.

The first stage of data collection was the pre-intervention stage (baseline data). The process started with administration of 370 of the data collection instrument, A.C.I questionnaires being the accessible population among the three programmes in the three universities; UCC 160, UEW 153, CCTU 57 respectively.

The Alcohol Consumption Inventory (ACI), a two-page, 13-item questionnaire was used. It was an adaptation from Alcohol Use Deficiency Identification Test (AUDIT) developed by the World Health Organization. It took the participants maximum 15minutes to complete. Based on the responses and the scores obtained in the baseline data, participants with healthy consumption i.e. scores between 0-7 were 283, risky consumption i.e. scores between 8-15 were 46 those with abuse consumption i.e. scores between 16-19 were 41. None of the participants in the baseline data scored 20 and above which is the dependence level. Although the data showed results for three different levels, the researcher focused on only two levels, i.e. risky and abuse levels of consumption. In all, 87 participants fell within the risky and abuse levels of consumption, hence, met the criteria for inclusion in the intervention. However, only 60, selected by means of simple random sampling participated in the intervention.

The selected 60 of 20 each per university were invited for the second stage of the study at their various university campuses for the group counselling intervention (treatment) stage. There were three groups of 20 participants in each group. Each of the three Universities was randomly allocated a group for the study, UEW was allocated the Twelve-step facilitation, UCC was allocated the Motivational interviewing treatment and CCTU was allocated the control group and therefore did not experience any treatment.

The 20 participants in the control group were however met after the actual experiment and were taken through treatment. Since both treatment groups benefited from the treatments, it implies that any of the two treatments

used in the main study could be used. However, the twelve step facilitation treatment was used for this group. This was because; it came out as more efficacious than the motivational interviewing in the main study.

The group counselling sessions took place at the graduate hostel in the case of the motivational interviewing group - UCC and the graduate hostel conference room at North Campus in the case of the twelve-step group -UEW. This was mainly once a week and in some occasions, sessions were held twice per week. Each treatment session lasted minimum 45 minutes and maximum 1 hour. The counselling sessions were held on Thursdays and on Sundays. This was done for eight weeks period.

Twelve-step Treatment Sessions (Group One)

For the treatment group one (UEW) which was allocated the twelve-step facilitation, there were fourteen (14) meetings in all within the eight-week period.

Treatment 1: Orientation: This was the very first meeting for the group; it was therefore used to provide orientation for the participants. The Counsellor introduced himself and the two other research assistants and also gave the chance to the participants to do the same. Issues regarding the purpose of the counselling sessions, days, venue, duration and the nature of the sessions, including confidentiality issues were addressed. The participants were also taken through meeting protocols.

Treatment 2: Step 1 of 12: Admit and Surrender – This is the step one of the twelve-step facilitation. The goal for this step was to get the clients admit that, they were not able to control their alcohol intake, hence the issue of risky and abusive consumption and to accept the need to surrender to a

higher power. To get them into this state, the discussions centred on honesty i.e. being honest with yourself, being open minded, and the willingness to admit among others. The Counsellor involved and took input from the participants at the individual level.

Treatment 3: Step 2 of 12: Recognition of a greater power – This step sought to help the clients to believe that a power greater than us could restore us to sanity despite their powerlessness over alcohol. To achieve, this, the discussion centred on hope, sanity, a power greater than ourselves.

This step was however treated as a process and not an event. More so, the source of power was not imposed knowing the participants will have different sources of power.

Treatment 4: Step 3 of 12: Decision to turn will and live to God – This is the third step of the twelve-steps. The objective was to assist the clients to make a decision to turn their lives and will to the care of the God of their own understanding. The sub-topics treated were decision making, self-will, the God of our understanding etc.

Treatment 5: Step 4 of 12: Searching and fearless moral inventory – The objective for this fourth step was to assist the clients to lay bare any unresolved pain or conflict in their past since that will not allow them to recover fully. The sub-topics treated to achieve this included motivation for the moral inventory, individual inventory of themselves, feelings, guilt and shame among others. As part of the activities, each participant was made to list their fears and wrong doings which were presented during the session.

Treatment 6: Step 5 of 12: Courage and sense of trust – This step sought to build in the clients strong and working trust relationship with the

counsellor and other participants. Confidentiality was treated in details here. Other sub-topics treated include facing fears, trust, courage, self-honesty etc. At the end, the clients admitted to God, themselves and to another human being the exact nature of their wrongs.

Treatment 7: Step 6 of 12: Readiness to have God remove defects of character – Step six sought to assist the clients to be entirely ready to let go defects held for a long time. The session was guided by discussions on defects of character, spiritual principles like forgiveness, etc.

The participants were guided to be entirely ready to have God remove all of these defects of character.

Treatment 8: Step 7 of 12: Asking Him to remove shortcomings – The step sought to get the clients to move beyond the words to take action that will invite God to take away the shortcomings. The focus here is on spiritual principles and not religion or denominational doctrines. The sub-topics treated include surrender, trust, faith patience etc.

Treatment 9: Step 8 of 12: Making a list of all persons harmed and willingness to make amends – The objective is to bring other people into the healing process. Clients were helped to identify damages they might have caused to other people as a result of their harmful consumption. Some of the activities engaged in were; listing people harmed and how they harmed them, the willingness to make amends.

Treatment 10: Step 9 of 12: Making direct amends – The objective for this step was to help the clients to gain the willingness to make amends through acceptance of personal responsibility. The Counsellor led a discussion around the following sub-topics, amends, fears and expectations, direct and

indirect amends. As part of the activities, each client was made to come up with his or her own approach to making amends.

Treatment 11: Step 10 of 12: Taking personal inventory and admit wrong doings – The target here was to get the clients to notice if in case they are going off the right way and work to change it. It was to see how far the client has come towards recovery, what is being done right or wrong. To achieve this, the counsellor facilitated the session around the following sub-topics, feeling versus doing, right and wrong, and integrity among others.

Treatment 12: Step 11 of 12: Improving conscious contact with God through prayer and meditation – This is the step eleven of the twelve-step facilitation. The objective here was to assist the clients to explore their spiritual path and picks up and discards practices that did not aid their recovery. The focus was on prayer and meditation, conscious contact, commitment and the power to carry out. Owing to this step, at each meeting a different participant was made to give the opening prayer and another different person gave the closing prayer.

Treatment 13: Step 12 of 12: Carrying the message to other addicts and practicing the principles in all affairs – As the last step of the twelve-steps, the objectives were on how to get the participants carry out the good message and the experiences they have encountered, leading to change, to other people who might be in the similar issue that brought them into counselling. The conversations centred on what kind of service works, what message to carry to other alcohol abusers, unconditional love, selflessness among others.

Treatment 14: Exit meeting: This was the final treatment or intervention session.

The counsellor took time thank and appreciate all the participants for remaining in therapy. They were also given the opportunity to give their final remarks. They were also assured of the counsellor's availability in case of relapse or any other form of counselling they might be willing to seek. It must be added that, all the intervention sessions were facilitated by the principal researcher and two other trained research assistants. Attendance to the AA counselling sessions was encouraging as absenteeism was minimal. The style of facilitation was non-teaching settings. Participants were free to air their views, frustrations and suggestions and comments were also welcomed freely from every member of the group. Discussion approach was used throughout. The sessions were also interspersed with activities. A more detail procedure of the treatment plan can be found in the treatment manual developed by the researcher, a copy of which is attached as appendix D.

Motivational interviewing treatment sessions (Group two)

There were eight (8) sessions in all. Attendance in the motivational interviewing group, although generally good, it was not as good as the case in group one (twelve-step). There were also cases of lateness and absenteeism though on a minimal note. Between four to five participants were treated in a day for the second major phase which was individual counselling. The main aspects of the motivational interviewing treatment include entry meeting, eliciting self-motivational statements, recognizing change readiness, follow through strategies and termination.

The sessions were divided into four major phases: the first phase which was on building motivation for change was held in group settings and lasted for three weeks. The second and the third phases were held as individual

counselling and the last phase being group counselling setting. Phase One: Building motivation for change

Treatment 1: Entry meeting – This being the first meeting was used by the counsellor to establish rapport with the clients. There were also discussions on meeting protocols i.e. time of meeting, venue, duration, nature of the meetings, channels of communication. This was followed by a briefing on the MI, its nature and procedures.

Treatment 2: Treatment goal setting – The objective for this stage was to help the clients to set specific, measurable, and attainable and time bound goals. The counsellor guided the clients to willingly and personally set their own kind and level of achievement they were seeking to achieve in therapy, how they intended to work at it, and the form of assessment to measure their achievements.

Treatment 3: Eliciting self-motivational statements – The focus for this stage of the treatment was to provide structured feedback from the initial assessment, in this case the baseline data, regarding problems associated with problem drinking, level of consumption and related symptoms. The clients were assisted to acknowledge real or potential problems related to drinking and expressed a need, desire or willingness to change. Some of the counselling skills used at this stage include, empathy, questioning, affirmation and summarizing. Phase Two: Strengthening commitment to change

Treatment 4: Recognize change readiness - This was one of the major processes in the motivational interviewing treatment.

It was used to consolidate the client's commitment to change, once sufficient motivation was present. It was the determination stage and the clients'

readiness for actions. To achieve this, the counsellor observed the clients' stops resisting and raising objections, the counsellor also checked if the clients were asking fewer or more questions, and then if they appeared more settled, resolved, unburdened or peaceful. This stage was facilitated on individual basis (individual counselling)

Treatment five: Discussion plan – The Counsellor's attention at this stage was on finding the client's reason for change and building motivation. Some of the clients initiated this by themselves. Some of the transitional questions posed include: What do you make of all these risky/abusive alcohol behaviour? What are you thinking you'll do about it? Where does this leave you in terms of your drinking? What is your plan? Some of the techniques used here were communicating free choice, consequences of action and inaction, emphasizing abstinence and the change plan worksheet Phase three: Follow through strategies

Treatment 6: Reviewing progress – At this stage, a follow through on what has happened in treatment so far was carried out. The counsellor discussed with the clients what commitment plans were made, and explored what progress the client has made towards them. The counselling skills used here were reflection, questioning, affirmation, reframing among others.

Treatment 7: Reviewing motivation and redoing commitment – This was based on the counsellor's judgement of the clients' current commitment to change. It was assessed by asking the clients what they remember as the most important reason for changing their drinking.

In situations where the clients had encountered significant problems or doubts about their initial plan, the clients' senses of autonomy were reinforced. Phase four: Termination

Treatment 8: Review – The most important factors that motivated the clients for change were reconfirmed using summarizing and affirmation etc. The counsellor explored additional areas for change that the client might want to accomplish in the future. Also, self-motivation was elicited, and client's self-efficacy supported. The counsellor also took time to deal with any special problems in the course of the treatment. The treatment was ended with closing remarks from the counsellor and the clients. These procedures were guided by the motivational interviewing treatment manual developed by the researcher (Appendix E).

The final stage of the data collection procedures was the post intervention stage. This was after the intervention treatments. All the 40 participants of the two treatment groups and 20 participants of the control group were made to respond to the same A.C.I. questionnaire. It took place as part of the closure meetings at the same venues used for the intervention sessions. It took the respondents a maximum of 15minutes to complete the questionnaire.

This was to help determine the effects of the twelve-step facilitation and motivational interviewing treatments techniques on the alcohol consumption behaviour of the participants. In the course of the entire engagements with the participants, they were made aware of their rights and they decided whether or not to answer any of the questions on the questionnaire or during the intervention counselling sessions.

The participants were allowed to skip or move on to the next question if they so wish. Some of the question items were likely to be embarrassing to them, however, it was to help unearth all the possible causes of the phenomenon and to inform the interventions with them. More so, their responses were anonymized to protect their identity. The questionnaire was presented to the participants to answer on their own. However, where they encountered some challenges in filling the form, the researcher and the research assistants together provided the needed clarity to assist. The information that was recorded was considered confidential, and no one else except the supervisors and the principal researcher had access to the respondents input.

Data Processing and Analysis

Best and Khan (2006) posit that the analysis and interpretation of data represent the application of deductive and inductive logic to the research. Antonius (2003) equally stated succinctly that the word "data" points to information that is collected in a systematic way and organized and recorded to enable the reader interpret the information correctly. Data collected using the A.C.I. questionnaire were edited using frequency distribution. This ensured that no part or component of the data was missing. The coding was for the demographic data in the main instruments.

For demographic, gender was assigned numbers i.e. 1- male and 2 – female. Age was also coded using numbers: 1 for age group (17-20), 2 for age group (21-24) and 3 for age group (25 and beyond). The main items in the instrument were also coded serially from serial number (SN4 to SN13). Again, to minimize error, the data were entered serially one university at a time.

The unit of analysis was undergraduate university students in the Central Region, Ghana. Data collected on the four hypotheses were analyzed as follows:

Hypotheses

Hypothesis one

H_O1: There is no significance effect of twelve-step facilitation treatment and motivational enhancement therapy on the alcohol consumption of students.

H_A1: There is significance effect of twelve-step facilitation treatment and motivational enhancement therapy on the alcohol consumption of students. One way ANCOVA was used to analyze data collected on this hypothesis. The one-way ANCOVA was deemed appropriate to use because the hypothesis was seeking to determine effects while controlling for their pre-test scores in experimental sense i.e. control and experimental groups. More specifically, the hypothesis had only one independent variable i.e. groups (twelve-step, motivational interviewing and control) hence the use of the one-way ANCOVA. This helped to compare the post-test scores of control, twelve-step facilitation and motivational interviewing treatment groups on alcohol consumption with the pre-test scores.

Hypothesis two

H_O2: There is no significant difference in the alcohol consumption of participants in the experimental groups with regard to gender.

H_A2: There is significant difference in the alcohol consumption of participants in the experimental groups with regard to gender.

Two-way ANCOVA was used to determine gender differences. It was appropriate to use because, the hypothesis had two independent variables i.e. groups (twelve-step facilitation, motivational interviewing, control) and gender (male, female). The two-way was, therefore, used to compare scores of the two independent variables on a dependent variable that is continuous in nature.

Hypothesis three

H_O3: There is no significant difference in the alcohol consumption of participants in the experimental groups on the basis of age.

H_A3: There is significant difference in the alcohol consumption of participants in the experimental groups on the basis of age.

This was also analyzed using two-way ANCOVA to test for differences in post-test scores in terms of age category while controlling for their pre-test. Again, the two-way ANCOVA was appropriate because, the hypothesis had to independent variables (groups and age category) with the dependent variable being post-test scores of participants.

Hypothesis four

H_O4: There is no significant difference in the alcohol consumption of participants in the experimental groups on the basis of religion.

H_A4: There is significant difference in the alcohol consumption of participants in the experimental groups on the basis of religion.

Two-way ANCOVA was used to test the differences in the post-test scores of participants in terms of religion, while controlling for their pre-test scores. This again was deemed appropriate to use because, the hypothesis had two

independent variables (groups and religion – Muslim, Christian, and African Traditional Religion). The choice of ANCOVA is based on the fact that, it is more robust and unbiased as compared to ANOVA. Also, the effects of a third variable are statistically "controlled out" (Wuensch, 2015).

CHAPTER FOUR

RESULTS AND DISCUSSION

The purpose of this study was to ascertain the effects of the Twelve-Step Facilitation Treatment (TSFT) and Motivational Interviewing (MI) treatments on alcohol consumption among undergraduate university students in the Central Region. The quasi- experimental design was employed to carry out the study. One-way and two-way ANCOVA were used to analyze data. Sixty participants who were high on alcohol consumption, using the Alcohol Consumption Inventory, adapted from the World Health Organizations' Alcohol Use Disorder Inventory Test (AUDIT), were assigned to three groups of 20 participants each. One of the groups was assigned to the Twelve-step facilitation treatment. The second group was assigned the Motivational Interviewing. Finally, the third group was assigned as the control group, where they were allowed to go on with their normal activities without any treatment. All the three groups were pre-tested prior to the intervention and post-tested after the intervention.

This section presents the results of the data collected from the field. The results are presented in two parts; the first part presents the demographic information of participants, while the second part presents the main results.

Demographic Characteristics of Participants

The demographic information of the participants includes gender, age, and religious background. The results are presented in Tables 2 to 4.

Table 2- *Gender of Participants*

	Gender					
	Male		Female		Total	
Group	f	%	F	%	F	%
Control	15	75.0	5	25.0	20	100.0
12-step	13	65.0	7	35.0	20	100.0
Motivational	14	70.0	6	30.0	20	100.0
Total	42	70.0	18	30.0	20	100.0

Source: Fieldwork (2019)

From Table 2, majority of the participants 42 (70%) were males while 18 (30%) were females.

Table 3- *Age of Participants*

	Age (years)							
	17–20		21–24		25+		Total	
Group	f	%	f	%	f	%	f	%
Control	4	20.0	15	75.0	1	5.0	20	100.0
12-step	2	10.0	9	45.0	9	45.0	20	100.0
Motivational	1	5.0	14	70.0	5	25.0	20	100.0
Total	7	11.7	38	63.3	15	25.0	20	100.0

Source: Fieldwork (2019)

As presented in Table 3, 7 (11.7%) of the participants fall within the ages of 17 – 20 years, 38 (63.3%) were from 21 – 24 years, and 15 (25%) were 25 years and beyond.

Table 4- *Religious Background of Participants*

	Religious Background							
	Muslim		Christian		Traditional		Total	
Group	f	%	f	%	f	%	f	%
Control	6	30.0	12	60.0	2	10.0	20	100.0
12-step	5	10.0	11	55.0	4	20.0	20	100.0
Motivational	4	20.0	13	65.0	3	15.0	20	100.0
Total	15	25.0	36	60.0	9	15.0	20	100.0

Source: Fieldwork (2019)

Table 4 shows that majority of the participants 36 (60%) were Christians, 15 (25%) were Muslims, and 9 (15%) were African Traditional Religion.

Main Results

This part presents the main results of the study. First, the alcohol consumption levels of participants before and after the intervention were described. Table 5 presents the details of the results. As indicated in Table 5, prior to the intervention, the mean score for participants in the motivational interviewing group (M = 17.75, SD = 3.48) was the highest, followed by participants in the control group (M = 15.55, SD = 1.99), then that of the twelve-step facilitation therapy (M = 15.00, SD = 1.92).

Table 5- Pre-test and Post-test Scores of Groups

		Pre-test		Post-test	
Group	N	*M*	*SD*	*M*	*SD*
Control	20	15.55	1.99	15.30	1.49
12-step	20	15.00	1.92	5.00	1.45
Motivational	20	17.75	3.48	9.15	2.91

Source: Field work (2019)

Preliminary analysis

Further, the hypotheses were tested. Prior to the hypotheses testing, preliminary analyses were performed in order to ensure that test assumptions were not violated.

Table 6- *Test for Normality and Outliers*

	Control		Motivational		12-step	
	Pre- test	Post-test	Pre- test	Post- test	Pre- test	Post- test
Mean	15.55	15.30	17.75	9.15	15.00	5.00
Standard deviation	1.99	1.49	3.48	2.91	1.92	1.45
5% Trimmed mean	15.50	15.39	17.78	9.06	14.83	5.17
Median	15.50	15.00	16.50	9.00	14.00	5.00
Skewness	.612	-.893	.175	.364	1.439	-2.182
Std. Error	.512	.512	.512	.512	.512	.512
Zskewness	1.20	1.74	.34	.71	2.81	-4.26

Source: Field work (2019)

From Table 6, it is evident that, mean, 5% trimmed mean, and median were approximately the same across all the groups for both pre-test and post-test, an indication that the data were normally distributed.

In addition, the Zskewness for all the scores apart from the post-test scores of participants in the twelve-step facilitation treatment group were within the ranges of +3.29 and -3.29. In the case of post-test scores of participants in the twelve-step facilitation treatment group, the normal Q-Q plot as shown in Appendix B shows the scores were normally distributed. On the basis of this, it was concluded that, for all groups, the scores were normally distributed.

Upon the data having assumed normality, one-way ANOVA was performed to compare the pre-test scores of participants across all the groups. Prior to the ANOVA, homogeneity of variance assumption was tested and the results was statistically significant; Levene's statistic (2, 37) = 11.44, $p < .05$. Having violated the homogeneity of variance assumption, Welch test was performed. The results are presented in Tables 7.

Table 7- *Robust Tests of Equality of Pre-test Means (Welch)*

	Statistic[a]	df1	df2	Sig.
Welch	4.720	2	36.395	.015

a. Asymptotically F distributed.

As shown in Table 7, there is a statistically significant difference in the mean scores of the pre-test, Welch (2, 36.40) = 4.72, $p = .015$. This result implies that the mean scores of the groups on pre-test were not the same. The result was followed up with Games-Howell multiple comparisons (Table 8).

Table 8- Games-Howell Multiple Comparisons

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.
Control	12-step	.55	.62	.650
	Motivational	-2.20	.90	.051
12-step	Control	-.55	.62	.650
	Motivational	-2.75*	.89	.012
Motivational	Control	2.20	.90	.051
	12-step	2.75*	.89	.012

*The mean difference is significant at the 0.05 level.

From Table 8, there is a statistically significant difference in the pre-test means scores of participants in the twelve-step treatment group and that of motivational interviewing treatment group, mean difference = 2.75, p = .012. There was however, no significant difference in the mean scores of participants in the controlled group and the motivational interviewing treatment groups, mean difference = -2.20, p = .051; and that of the controlled group and the Twelve-step treatment group, mean difference = .55, p = .650. The results imply that, the groups are not equal on their pre-test; hence the need to control for the pre-test scores using Analysis of Covariance (ANCOVA). Further assumptions with the use of ANCOVA, linearity of covariate and dependent variable and homogeneity of regression were tested and presented in Figure 3.

This hypothesis was geared towards examining the effect of (a) twelve-step facilitation treatment and (b) motivational interviewing treatment on the alcohol consumption of students. In order to determine the effects of these treatments, the post-test scores of all the groups were compared with the control group, while controlling for their pre-test scores. To perform this analysis, one-way ANCOVA test was used. Table 9 presents the results.

Table 9- *ANCOVA of Tests of Between-Subjects Effects Comparing Post-test Scores of Groups*

Source	Df	Mean Square	F	Sig.	Partial Eta Squared (ηp^2)
Corrected Model	3	358.53	83.17	.000	.817
Intercept	1	110.61	25.66	.000	.314
Pre-test	1	1.35	.31	.579	.006
Group	2	535.48	124.22	.000*	.816
Error	56	4.31			
Total	60				
Corrected Total	59				

*Significant at .05 level.

A one-way ANCOVA test was performed to compare the post-test scores of control, twelve-step facilitation treatment, and motivational interviewing treatment groups on the alcohol consumption while controlling for their pre-test scores. The independent variable was the groups, which had three levels: control, twelve-step facilitation treatment, and motivational interviewing treatment. The dependent variable was the post-test scores, which was measured on interval scale, and the covariate was the pre-test scores which were also measured on interval scale.

The result in Table 9 indicates a statistically significant difference in the post-test scores of the participants in the three groups after controlling for their pre-test scores, F (2, 56) = 124.22, $p < .05$, ηp^2 = .82. The magnitude of the difference was large, and this implies that 82% of the variance in post-test scores (alcohol consumption) was explained by the groups. This result was followed up with the multiple comparisons using Bonferroni's adjustment of .017. The results are presented in Table 10 and Figure 4.

Table 10- *Pairwise Comparisons for Groups*

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.[b]
Control	12-step	10.27*	.659	.000
	Motivational	6.28*	.698	.000
12-step	Control	-10.27*	.659	.000
	Motivational	-3.99*	.720	.000
Motivational	Control	-6.28*	.698	.000
	12-step	3.99*	.720	.000

Based on estimated marginal means b. Adjustment for multiple comparisons: Bonferroni = .017.

From Table 10, there is a statistically significant difference in the post-test scores for participants in the control group and the twelve-step facilitation treatment group ($p < .05$). A statistically significant difference also exists in the post-test scores of participants in the control group and that of the motivational interviewing treatment group ($p < .05$). The results further revealed a statistically significant difference in the post-test scores for participants in the twelve-step facilitation treatment group and those in the motivational interviewing treatment group ($p < .05$).

The implication of this is that, the twelve-step facilitation treatment was effective in reducing the alcohol consumption level of students. In addition, it was revealed that the post-test scores for the controlled group (M = 15.33, SD = .47) was higher than the motivational interviewing treatment group (M = 9.05, SD = .50). This means that the level of alcohol consumption for motivational interviewing treatment group was lower than that of the control group, an indication that, motivational interviewing treatment was effective in reducing the alcohol consumption level of students Further comparison of the twelve–step facilitation treatment and motivational interviewing treatment revealed that, the twelve–step facilitation treatment was more effective than the motivational interviewing treatment.

In effect, both twelve–step facilitation treatment and motivational interviewing treatments were effective in reducing alcohol consumption of students. However, as shown in Table 8 earlier, using multiple comparisons, the twelve–step facilitation treatment was more efficacious than the motivational interviewing treatment. Based on the results of this study, the null Hypothesis 1 was rejected in favour of the alternative hypothesis.

Hypothesis Two

H_O2: There is no significant difference in the alcohol consumption of participants in the experimental groups with regard to gender.

H_A2: There is significant difference in the alcohol consumption of participants in the experimental groups with regard to gender.

The aim of this hypothesis was to determine whether the alcohol consumption levels of male and female students will differ having gone through the twelve–step facilitation treatment and motivational interviewing interventions.

Thus, the study sought to find out whether gender will moderate the effectiveness of each of the two intervention treatments. The two-way analysis of covariance test was performed to determine gender differences in the post-test scores of participants in the experimental groups on the basis of gender while controlling for their pre-test scores. Two-way ANCOVA test was performed to compare scores of two independent variables on a dependent variable that is continuous in nature. The independent variables were groups and gender. Groups had three levels: control, twelve–step facilitation treatment, and motivational interviewing treatment groups. Gender also had two levels: male and female. The dependent variable was the post-test scores of participants. The results of the analysis are presented in Table 12.

Table 12- *ANCOVA Test for Difference in twelve–step Facilitation Treatment and Motivational Enhancement Therapies with respect to Gender*

Source	Df	Mean Square	F	Sig.	Partial Eta Squared (ηp^2)
Corrected Model	4	53.24	11.66	.000	.571
Intercept	1	14.31	3.13	.085	.082
Pre-test	1	11.39	2.49	.123	.066
Group	1	123.87	27.13	.000	.437
Gender	1	24.68	5.40	.026*	.134
Group * Gender	1	17.68	3.87	.057	.100
Error	35	4.57			
Total	40				
Corrected Total	39				

*Significant at .05 level

There was no statistically significant interaction effect between the groups and gender, F (2, 35) = 3.87, p = .057, ηp^2 = .10 (see Table 11). The result implies that, interaction between the groups and gender explained 10% of the variance in the post-test scores.

There was, however, significant main effect (group), F (1, 35) = 27.13, p = .000, ηp^2 = .44. There was also a significant gender effect, F (1, 35) = 5.40, p < .026, ηp^2 = .13. Table 13 shows the adjusted means of the groups.

Table 13- *Adjusted Means for Groups Based on Gender*

Group	Gender	Mean	Std. Error
12-step	Male	5.15[a]	.60
	Female	5.57[a]	.89
Motivational	Male	7.87[a]	.65
	Female	11.15[a]	.88

a. Covariates appearing in the model are evaluated at the following values: Pre-test = 16.3750.

From Table 13, it is evident that after controlling for the pre-test scores for the twelve-step facilitation treatment group, the level of alcohol consumption for male (M = 5.15, SD = .60) and female (M = 5.57, SD = .89) was approximately the same. Again, for participants in the motivational interviewing treatment group, the male (M = 7.87, SD = .65) had lower level of alcohol consumption than female (M = 11.15, SD = .88), however, the difference was not significant. This result implies that both therapies worked equally for both males and females. On this basis, the null hypothesis which states that, there is no significant difference in the alcohol consumption of participants in the experimental groups with regard to gender was rejected.

Hypothesis Three

H_O3: There is no significant difference in the alcohol consumption of participants in the experimental groups on the basis of age.

H_A3: There is significant difference in the alcohol consumption of participants in the experimental groups on the basis of age.

This hypothesis sought to determine the differences in the level of alcohol consumption among participants in terms of age. Two-way ANCOVA was used to test for differences in post-test scores in terms of age category while controlling for their pre-test scores. The dependent variable was the post-test scores of participants. The independent variables were groups and age category. Groups had two levels: twelve-step facilitation treatment and motivational interviewing treatment groups, while age was made up of three categories: 17 – 20 years, 21 – 24 years, and 25 years and above. Table 14 presents the results.

Table 14- *ANCOVA Test for Difference in 12–step Facilitation Treatment and Motivational Interviewing Treatment with respect to Age Category*

Source	Df	Mean Square	F	Sig.	Partial Eta Squared (ηp^2)
Corrected Model	6	31.886	5.799	.000	.513
Intercept	1	22.268	4.050	.052	.109
Pre-test	1	2.446	.445	.509	.013
Group	1	67.624	12.298	.001	.271
Age	2	4.170	.758	.476*	.044
Group * Age	2	1.654	.301	. 742	.018
Error	33	5.499			
Total	40				
Corrected Total	39				

*Significant at .05 level

As presented in Table 14, there was no statistically significant interaction effect between the groups and age category, F (2, 33) = .301, p =.742, ηp^2 = .02. The result implies that 2% of the variance in the post-test scores was explained by the interaction between the groups and age category.

There was however, significant main effect (group), F (1, 33) = 12.30, p = .001, ηp^2 = .27. There was also no significant main effect of age category, F (1, 33) = .758, p >.05, ηp^2 = .04. Table 15 presents the adjusted means of the groups.

Table 15- *Adjusted Means for Groups Based on Age Category*

Group	Age	Mean	Std. Error
12-step	17-20yrs	2.58[a]	1.66
	21-24yrs	5.00[a]	.80
	25+	5.83[a]	.82
Motivational	17-20yrs	8.36[a]	2.53
	21-24yrs	9.01[a]	.66
	25+	9.16[a]	1.05

a. Covariates appearing in the model are evaluated at the following values: Pre-test = 16.3750.

As shown in Table 15, the mean scores for participants in the 12-step facilitation from the ages of 21 – 24 years and 25 years and beyond were approximately the same, however, that of participants aged 17 – 20 years appeared to differ, but this was however not significant. Similarly, the mean score for participants in the motivational interviewing treatment group were approximately the same across the various age groups. In all, the result of the Hypothesis 3, has provided evidence in favour of the null hypothesis, hence we fail to reject the null hypothesis. Based on this result, it is clear that age category does not discriminate among the effectiveness of both treatments.

Hypothesis Four

H_O4: There is no significant difference in the alcohol consumption of participants in the experimental groups on the basis of religious background.

H_A4: There is significant difference in the alcohol consumption of participants in the experimental groups on the basis of religious background.

The aim of this hypothesis was to determine whether religious background will discriminate among the effectiveness of twelve–step facilitation treatment, and motivational interviewing treatment in reducing alcohol consumption. Two-way ANCOVA was used to test the difference in the post-test scores of participants in terms of religion, while controlling for their pre-test scores. The independent variables were group and religion, where group had two levels: twelve–step facilitation treatment and motivational interviewing treatment groups; and religious background also with three levels: Muslim, Christian, and African Traditional Religion. The dependent variable was the post-test scores. The results are presented in Table 16.

Table 16- *ANCOVA Test for Difference in 12–step Facilitation Treatment and Motivational Interviewing Treatments with respect to Religious Background*

Source	Df	Mean Square	F	Sig.	Partial Eta Squared (ηp^2)
Corrected Model	6	29.50	4.97	.001	.475
Intercept	1	40.24	6.78	.014	.171
Pre-test	1	1.08	.18	.673	.005
Group	1	14.25	19.26	.000	.369
Religion	2	.83	.14	.870*	.008
Group * Religion	2	1.01	.17	.844	.010
Error	33	5.93			
Total	40				
Corrected Total	39				

*Significant at .05 level

From Table 16, there was no statistically significant interaction effect between group and religious background, F (2, 33) = .17, p = .844, ηp^2 = .01. The result implies that interaction between the groups and religious background explained 1% of the variance in the post-test scores. There was no significant main effect (religious background), F (2, 33) = .14, $p > .05$, ηp^2 = .01. There was, however, a significant main effect of group, F (1, 33) = 19.26, p = .000, ηp^2 = .37. The adjusted means of the post-test scores are presented in Table 17.

Table 17- Adjusted Means for Groups Based on Religious Background

Group	Religious Background	Mean	Std. Error
12-step	Moslem	4.71[a]	1.12
	Christian	5.25[a]	.75
	Traditional African Believer	5.10[a]	1.24
Motivational	Moslem	8.99[a]	1.22
	Christian	8.90[a]	.72
	Traditional African Believer	9.90[a]	1.43

a. Covariates appearing in the model are evaluated at the following values: Pre-test = 16.3750.

As shown in Table 17, among participants in the twelve-step facilitation treatment group, the mean scores were approximately the same for all the religious backgrounds. This result was similar to participants in the motivational interviewing group. Based on the results of the study, we fail to reject the null hypothesis for Hypothesis 4.

This, therefore, implies that, irrespective of participants' religious background, both therapies equally worked for participants.

Discussion of Results

The study revealed that, both the twelve-step facilitation and the motivational interviewing treatments were effective in reducing the alcohol consumption level among university students. This finding supports the results revealed by Kelly et al. (2002) that attendance at twelve-step meetings was associated with more motivation for abstinence and self-efficacy. Similarly, Rothman (2009) also used motivational interviewing as a brief intervention to change drinking behaviour which resulted in higher motivation to change drinking behaviour, lower levels of quantity and frequency of alcohol consumption and decrease in alcohol related problems.

This implies that the twelve-step facilitation and the motivational interviewing counselling treatments did record positive effects on participants' alcohol consumption behaviour. Therefore, both counselling therapies are effective in reducing risky and abusive alcohol consumption behaviour among university students in the Ghana and elsewhere. This current result is in line with the results obtained by NIAAA (2000), that found out that, brief interventions are especially effective as a preventive measure that helps people make changes in the early stages of risky drinking.

Perhaps, the participants responded well to the two treatments because of the nature and procedures of the treatments coupled with the dexterity with which the counsellor carried out the facilitations. There are assumptions, approaches and skills involved in using the twelve-step facilitation which when followed, can yield a positive result. For instance, the participants in the twelve-step facilitation were engaged in a meaningful and a productive way where the counsellees got to spend quality time which could be a factor in the

result arrived at This assertion is supported by Snow et al. (1994) who found that, individuals who were more involved in AA meetings were more likely to rely on specific coping responses aimed toward reducing substance use such as spending time with non-drinking friends, talking to someone about their drinking problems, rewarding themselves for trying to stop drinking and becoming more aware of social efforts to help people stop.

Also, the twelve-step facilitation is group-oriented which allow the counsellees to experience social support from other counsellees in treatment. The ideology of the twelve-step again expects individuals with substance use problems to admit past wrongdoing, acknowledge inability to control substance use, and trust a higher power to achieve recovery. This might have also contributed to the twelve-step facilitation treatment being effective in reducing risky and abusive alcohol consumption behaviour.

To support this argument, Pagano et al. (2004) stated that, recovering individuals who help their peers to maintain long-term sobriety are better able to maintain sobriety themselves. Zemore et al. (2004) also indicated that, clients or counsellees who engage more in helping during treatment tend to be more involved in Self Help Groups (SHGs) after treatment and, in turn, are more likely to achieve abstinence. Each step of the twelve-step facilitation treatment involves sharing personal experiences, probing other participants' experiences and the counselees helping others to understand their predicaments and also helping themselves and others. In effect, the group tends to offer guidance, goal direction and monitoring through the modelling of substance use refusal skills and all of these could enhance the social support gained from the twelve-step thereby making it efficacious.

It is also an established fact that, with the twelve-step facilitation, individuals whose beliefs are in consonant with the twelve-step orientation i.e. spiritual inclination and a belief in a super power are more likely to affiliate with the twelve-step facilitation treatment hence benefit from it.

An evidence was established when Ouimette et al. (2001) found out that, counsellees with substance use disorders whose identity matched the twelve-step philosophy participated more in self-help group activities; more participation was associated with less distress for these counsellees but with more distress for counsellees who did not have a twelve-step identity. According to the Global Attitudes Survey (2015), a staggering 90% of Ghanaians say their religion is very important in their lives. For this current study, all of the participants were affiliated spiritually. They all showed a belief in a super power (God) by subscribing to Christianity, Islam or African Traditional Belief. It therefore comes to reason that, twelve-step treatment used was in consonance with the participants orientation spiritually and therefore bound to be effective.

The motivational interviewing treatment which is a brief intervention also proved to be effective in reducing risky and abusive alcohol consumption among the participants. This finding is supported by the National Institute on Alcohol Abuse and Alcoholism, (2000) which stated that, evidence shows that many people make positive changes after just one session of basic counselling. Similarly, the findings of Tevyaw and Monti, (2004) who stated that, early evidence on the effectiveness of brief interventions in reducing or eliminating alcohol-related problems in adolescents indicates that they may be effective in reducing both drinking and its consequences e.g., drunk driving is also in line

with the findings. This finding can be attributed to the nature of the treatment and the counsellor's skills adopted during the treatment. The counsellor's focus was directed at achieving motivation for change and therefore followed the laid down stages for change meticulously throughout the treatment. The intervention was based on non-authoritarian empathic approach which has been proven to encourage people to take personal responsibility for change. The point of seeking to achieve motivation for change was informed by Miller and Sanchez (1994) who revealed that, a primary function of brief interventions is to motivate people to initiate specific health-related behaviour changes. The motivational interviewing relies on the individual counsellee's motivation and for that matter willingness to change.

Another study by Carey et al., (2006) using brief motivational interventions for heavy college drinkers also showed significant effect in reducing their heavy drinking behaviour. The motivational interviewing is brief and direct. Its cognitive nature also allowed the participants who were capable of abstract thinking, to relate well with the treatment and this could lead to the result attained.

The finding for hypothesis two indicated that, there was significant gender effect on alcohol consumption of the participants in the experimental groups. This implies there was significant difference in the response of participants in the experimental group to the intervention with regard to gender. It also implies gender of the participants influenced how they responded to the treatment using the two therapies.

Further analysis also revealed that, the males benefited more from the treatments as compared to the females in the experimental groups. This

finding is in line with some other assertions and findings. For instance, it is believed that, the vulnerability of women when it comes to alcohol may be explained by a wide range of factors. According Wilsnack, Wilsnack, and Kantor (2013), women typically have lower body weight, smaller liver capacity to metabolize alcohol, and a higher proportion of body fat, which together contribute to women achieving higher blood alcohol concentrations than men for the same amount of alcohol intake. This implies, it will take less alcohol for blood concentration among females whiles it will take more alcohol for blood concentration among the males. It also means that, the effect alcohol will have on females will be more damning than it will have on males. More so, since the concentration is high among females, they are likely to take longer time to come out or recover as compared to the males. Ultimately, finding also implies the two therapies were biased on the basis of gender.

The current result which indicates gender had significant effect could be attributed to a number of factors. For instance, there are changing phases of our socio-cultural setting universally which can have influence on behaviour including alcohol consumption among students both male and females. This is confirmed by Coffie, (2010) who revealed that, in recent years, alcohol use among the youth has increased worldwide.

Further analysis also revealed that, males benefited from the treatment more than the females, though not an expected finding because of our socio-cultural context and taking into consideration the variations in the nature of men and women and how they react to events and situations, is however, supported by the findings of Grucza, Bucholz, Rice, & Bierut, 2008; Wilsnack, (2013) which states that, alcohol use among women has been

increasing steadily in line with economic development and changing gender roles It is, therefore, not surprising to find alcohol consumption among both male and female youth and even more among the females in the experimental groups.

This has partly being attributed to the availability and the ease with which one can get access to alcohol and the marketing strategies of producers and marketers who target the youth in their quest to maximize profit. This concern is also backed by Ghana's Ministry of Health which stated that, the harmful consumption of alcohol has been a cause for great concern globally and nationally. In acknowledging that, alcohol use is part of the Ghanaian culture and society, the Ministry was concerned about the current trend of consumption and the inadequate regulation of alcohol advertisement in both the print and electronic media (MoH, 2016).

Again, although the nature of the twelve-step facilitation for instance, was expected to favour the females owing to the level of dependence on God for sobriety which is expected to be done by women better than men, did not reflect in this study. Generally, men are said to be more boisterous, stubborn, and will probably find it difficult to yield as compared to women. This would have meant that, the women will benefit more from the twelve-step facilitation treatment more than the men. However, this did not happen in this study.

The deviation from this expectation could be attributed to the effect of the alcohol consumption and how deeply it weighs on them thereby making it more challenging to recover.

This is supported by Kaskutas, (1996) who found out that, women with substance abuse disorder often report low self-esteem, an external locust of

control and that these personal characteristics are congruent with the twelve-step ideology which expects individuals with substance use problems to admit past wrongdoing, acknowledge inability to control substance use and trust a higher power to achieve recovery. What this means is that, even though generally, women would have benefited more from the treatments, because of their risky consumption, they lose the needed traits and characteristics which would have made it feasible for them to benefit from the treatment. Simply put, women who engage in risky alcohol consumption become hardened and will less likely give in to the ideologies of these treatments.

To make further intellectual argument, in this part of our world, where women engaging in alcohol abuse and risky consumption are frown upon more as compared to the men, it suffice to say that, if a female is engulfed in risky alcohol consumption, despite the socio-cultural context, then probably, such an individual has been influenced by other cultures or was socialized in a way where she was exposed to the behaviour in earlier experiences. It could also be that, the individual is faced with a psychological disturbance hence the difficulty to recover better as compared the males.

More so, in an era where women empowerment coupled with feminism with calls for women and men to be treated equally, there are some women empowerment groups, advocating for freedom for women to do equally as men do. Their argument is that, if it is okay for society to see no wrong with a man engaging in risky and abusive alcohol consumption, or will not frown on it; same notion should be given to women who do same.

A case can also be made that, with the target group under study being university students, who are internet savvy and more likely to have come into

contact with pictures and videos in foreign movies where women engage in smoking and drinking as it pertain to other cultures could also be a factor in the result obtained

Again, the lifestyle on university campuses is such that, peer influence is predominant. There are some individuals who are made to feel low because of their refusal to engage in risky and abusive alcohol consumption. In order to be accepted by their peers, they end up involving in this risky and abusive alcohol consumption. It is also the case that, some of the discussions and issues that are treated in academia in some liberal studies bother on women and how society has denigrated them to the background for far too long. In terms of activities they are allowed to undertake as compared to what men are allowed to undertake. Owing to this, some jobs and professions that hitherto were left to male domination are now being taken up by women. The nature of some of these jobs are that, the women end up picking up some typical male oriented behaviour and as such as part of their work, could end up consuming risky and abusive levels of alcohol. With all of the factors raised above, one cannot deny the effects they could have on the participants and also being influenced differently with regard to gender. It is therefore not out of place for the study to have found out that gender had significant effect on alcohol consumption.

Results for hypothesis three showed there was no statistically significant effect among participants on the basis of age in the experimental groups. This implies that, participants of different ages did not respond significantly different to the treatments, indicating that, age category did not discriminate among the effectiveness of both treatments on the basis of age.

Probably, the finding for this current study is because, the three age categories being 17-20, 21-24, 25 and above, although varies chronologically, the variations are not that wide apart with the difference between the first and the last categories not up to or more than a decade. It will therefore not be out of place to describe the entire participants as people of the same generation hence likely to behave and for that matter respond similarly to the treatments.

This current finding is supported by another study by Lemke and Moos, (2003), who found out that, younger (ages 21-39 years), middle-aged (ages 40-59 years) and older patients (ages 55 years or more) with substance use disorders who participated and benefited from twelve-step treatment, the three age groups did not differ in the associations between twelve-step attendance and the outcomes. It could also be that the two counselling treatments are robust enough to withstand the influences of age variations in determining their effectiveness, hence the current result. This assertion is supported by McNally, Palfai, and Kahler, (2005) who revealed that, motivational interventions for heavy drinking college students obtained 100% retention of test participants.

Again, the result for age factor not having significant effect on alcohol consumption of the participants in the experimental groups could be explained by the way and manner the treatments were carried out. Every participant was treated equally and given the same chance of participation and involvement. For instance, in the twelve-step facilitation, each participant was given the opportunity to share personal experiences regarding how they ended up abusing alcohol or engaged in risky consumption. In the same vein, they had the opportunity to listen to other participants' experiences which made those

experiences available for all to pick cues from. The facilitation process took care of individual cases in the group while driving the entire group along. Opportunities were created for participants who were not clear about any aspect of the treatment's objective and what is expected of them, to ask questions. This contributed to carrying everybody along and made them to benefit irrespective of the age bracket.

Similarly, the motivational interviewing treatment involved and engaged the participants at length and on an equal level owing to its client centred approach. The guiding principles of the motivational interviewing which include expressing empathy, developing discrepancy, rolling with resistance and supporting self-efficacy well followed meticulously on individual level. This might have contributed to the participants responding to the treatment irrespective of their varying age brackets.

Also, Murphy et al., (2001), in a study titled relative efficacy of a brief motivational intervention for college student drinkers indicated that, participants who share more homogenous characteristics are more likely respond to treatment in a similar way. Although the age bracket in the current study varied, the participants shared other similar homogenous characteristics. For instance, participants involved in the study possessed similar characteristics, such as all being high on risky and abusive alcohol consumption, all being third year students and therefore identifiable with similar or same level of assimilation. This could also be a factor in the result obtained.

Considering the participants (university students) for the study and the known lifestyle of some this group of people, taking cognisant of the fact that,

there are associations among the students body on halls of residence basis, programme of study, unions, clubs and general social get together etc. During these celebrations, the young people are more likely to appear less risk averse and may engage in more reckless drinking behaviour. There are situations where some of the students engage in drinking competitions to show off their drinking prowess.

It goes to point out that, there is the likelihood to have a situation where these individuals of varying age groups will associate and develop their own sub-culture, and are therefore likely to think alike, act and conduct themselves in a similar manner. According to the US Surgeon General (2007), at least part of the excess risk among young people is related to the fact that, typically, a greater proportion of the total alcohol consumed by young people is consumed during heavy drinking episodes. Although this finding is related to America, the situation might not be too far from the Ghanaian case.

Most of these behaviours are acted in movies and on social media which are made available for the consumption of the Ghanaian students. The effect is that, some of these western cultures end up finding its way into the Ghanaian culture. It implies this behaviour could be replicated here in Ghana among the university students. This assertion is backed by Sacks et al., (2013). Indicating that, negative consequences of excessive alcohol consumption also apply to all college students; meaning, it is less likely for age to have significant effect on alcohol consumption among the participants in the experimental groups.

Further analysis also revealed that, alcohol consumption on the basis of age among the participants declined among the early adults (25 and beyond

bracket) or older participants in the experimental group. They consumed less in the experimental group compared to the youthful age bracket (21-24) whiles the late adolescent bracket (16-20) also consumed less than the youthful and the early adults. It must be pointed out that majority of the participants (63.3%) for this current study who engaged in the risky and abusive alcohol consumption fell within the 21-24 year category which is operationally defined in this study as the youthful stage. Knowing the characteristics that go with a typical youth, with the urge to try almost everything driven by curiosity and youthful exuberance, one can associate similar attributes to the students of this age bracket. Also, owing to the fact that, the control and regulation of alcohol sales and consumption has not been effective, there are huge numbers of advertisements on radio, television, social media that exposes these students to the phenomenon. It was also discovered during the study that, there are notable alcohol sale joints spread across all the three campuses or close to the campuses of the Universities where the study was carried out.

All of these factors contribute to exposing even the relatively younger people to alcohol consumption. For instance, Coffie (2010) made mention that, in recent years, alcohol use among the youth worldwide has increased significantly, with the age of at which drinking is started, declining. This is probably another reason why the youthful age brackets were engaged in the risky and abusive alcohol consumption than the late adolescents and the early adults. It is therefore inferred that, the individual's alcohol consumption is more likely to reduce as the person advance in age.

This assertion is in line with the findings of Grundstrom, Guse, and Layde (2012) who reported that, alcohol consumption generally declines with

age. This finding is in tune with our Ghanaian context, where responsibility increases as one grows older. The interpretation can therefore be made that, the more responsibilities one accommodates with time of age; the less likely it is for the individual to engage in risky and abusive alcohol consumption, all other things being equal.

Littlefield and Sher (2010) similarly opined that some students will mature and reduce drinking habits, others will not and added that, this normative shift towards maturity is called the "maturity principle," and it said to be linked to marriage, parenthood and adult role transitions. This probably explains why it was not the 25 years and beyond whom were in the majority in the alcohol consumption. This group can be said to be closer to marriage aspirations, parenthood and adult role transitions. It was the 21-24 year bracket described as the youthful stage that was engulfed in the phenomenon.

More so, there seem to be some form of correlation between chronological age and cognitive development. It is believed that, the more developed and refined a person's cognition is, the better the level of rational reasoning, which could influence decision making on alcohol consumption behaviour. This is supported by the stages of cognitive development as developed by Piaget (1952). In this current study, all the three age categories of the participants fall within the final stage of cognitive development given by Piaget, that is, formal operational stage, which is to afford the individual the prowess of abstract and other forms of higher order thinking. This however did not reflect in the study.

Although all the participants had attained the formal operational stage, there are also different levels of intelligence. Ones' level of intelligence could

affluence his or her ability to benefit more from the treatment that they were exposed to. This goes to suggest that, whiles chronological age could have impact on ones level of reasoning; it is not always the case. It also points out that; the environment factor cannot be overlooked as it has what it takes to influence the elements within the environment equally as it is a factor that, learning is influenced by both nature and nurture.

Notwithstanding, it is also known that, people who engage in drug addiction are found of shunning the company of their colleagues who do not engage in same alcoholic behaviour. They rather move with their kind or their own where the discussions and conversations that endorse their illicit behaviour are propagated and promoted. This is supported by the findings of CASA, (2007) indicating that, 68.1% of students who abuse drugs also experienced missing classes, 52% of students experienced blackouts, and 21.3% of students engaged in unplanned sexual activity. With this, the ripple effects are that, the cycle of behaviour among this sub-group is likely to continue thereby not giving room for individual differences, aspirations and projections towards a desired behaviour change.

Similarly, it has been established that, alcohol leads to changes in the structure of the hippocampus (a part of the brain involving learning process) (De-Bellis et al., 2000). Although, the study did not look at the academic performance of the researched, one can deduce from the above that, risky and abusive alcohol consumption among the university students, especially those still in their late adolescent stage, could affect their academic performance and or educational achievement as a high level of the phenomenon is capable of impairing brain development (Spear, 2000).

Some implications for counselling on the basis of this finding are that, there is the need for counsellors to assess the chronological age and the corresponding level of cognitive development of clients in counselling in order to be well informed about the level to engage the clients and even the sought of intervention technique to use since there is a correlation between how meaningful the intervention will be to the client and the benefit he or she is likely to derive from it. Another implication for counselling is that, in the universities, the counselling units and the counsellors must be proactive and design programmes around the psychological characteristics of the different age brackets of the students.

The findings for hypothesis four revealed that, there was no significant effect on the alcohol consumption of participants in the experimental groups on the basis of religion background. This implies that, irrespective of the client's religious background i.e. (Christianity, Islam, and African Traditional belief), they can be provided counselling using the twelve-step facilitation and the motivational interviewing

Perhaps, this is because, the two treatments (twelve-step facilitation and motivational interviewing) are suitable to all the three religions. All the three religions in this study and for that matter their tenets and teachings seem to be against either alcohol consumption or risky and abusive alcohol consumption especially among relatively younger people. This is supported by a growing body of works that have examined the links between religious involvement and alcohol consumption patterns.

Most studies in this vein have relied upon generic measures of religion such as affiliation, service attendance, or overall salience (Ellison, Bradshaw,

Rote, Storch, and Trevino, 2008). Other studies indicates that, in many countries, there can be serious social consequences for drinking at all, due to laws and regulations or cultural and religious norms, which can increase the vulnerability of drinkers to alcohol-related social harm (Chartier, Vaeth, & Caetano, 2013).

With these earlier findings, it was therefore expected that, the participants' with religious affiliations will be guided by the teachings and tenets of their religion in determining whether to drink at all or engage in risky and abusive consumption. This expectation is backed by Heath, (2000) who holds the view that, it is commonly believed that, in many cultures, alcoholic beverages have only been introduced fairly recently.

In Africa and for that matter in Ghana, alcohol use is part of the culture and tradition of the people. With African traditional belief being the foremost and indigenous religious sect, it is probably not out of place to find an African traditional religion believer using alcohol. From the African traditional belief perspective, alcohol is used on many fronts. It is used to appeal to the gods; it is used during funerals, naming ceremonies and on special occasions. In most contexts, even children are introduced to alcohol as part of rites of passage. During outdooring ceremonies among some sections for instance, there is a drop of alcohol onto the tongue of the newborn baby among other rituals. The expectations of the African traditional belief believers are that, consumption levels among children and the youth will be minimal.

They therefore admonish children, the youth and even adults not to abuse alcohol. This teaching resonate with the twelve-step and the

motivational interviewing treatment processes. The twelve-step for instance advocates for the individual to openly declare his or her loss of control on alcohol and to look up to a supernatural force (God) for sobriety. The motivational interviewing also seeks to motivate the individual to a point of decision to want to change from their drinking behaviour. This similarity between the treatments and the teachings of the African Traditional Belief (ATB) might have contributed to the participants with the ATB background benefiting from the treatment.

On the part of Christianity and when it comes to alcohol use and consumption among Christians, the case has always been a bone of contention between two schools of thought. One school of thought opines that, the Bible which is the guiding authority for the religious sect, is entirely against alcohol consumption, whether healthy level of consumption or risky and abusive levels of consumption. For this school of thought, their argument is that, it is a sin as it leads to drunkenness, something the Bible frowns upon with a reference from the Bible.

And then, there is the second school of thought which says that Jesus Christ condoned it because He turned water to wine. Other scriptures they rely on are; 1st Timothy 5:23 “stop drinking only water, and use a little wine because of your stomach and your frequent illness”, Ecclesiastes 9:7 “Go, eat your food with gladness, and drink your wine with a joyful heart, for God has already approved what you do”, Psalm 104:14-15 “He makes grass grow for the cattle, and plants for people to cultivate – bringing forth food from the earth: wine that gladdens human hearts, oil to make their faces shine, and bread that sustains their hearts”. Ephesians 5:18 -- "And be not drunk with

wine, wherein is excess; but be filled with the Spirit". With this latter one, this school of thought emphasizes the fact that, the scripture was talking about drinking but not in excess. They therefore conclude that, one can drink but not in excess. For them, the scriptures are against more specifically harmful consumption among Christians.

Owing to these opposing views, people resort to the scriptures to ascertain the position of the Bible on alcohol. Some of the scriptures that seem to speak against alcohol consumption are; Proverbs 20:1 "Wine is a mocker, strong drink is raging: and whosoever is deceived thereby is not wise, "1st Corinthians 6:9-10; "Know ye not that the unrighteous shall not inherit the kingdom of God? Be not deceived: neither fornicators, nor idolaters, nor adulterers, nor effeminate, nor abusers of themselves with mankind, Nor thieves, nor covetous, nor drunkards, nor revilers, nor extortioners, shall inherit the kingdom of God, "Romans 13:13 - "Let us walk honestly, as in the day; not in rioting (drunken partying) and drunkenness (general drunkenness),being Galatians 5:19 "The acts of the sinful nature are obvious: sexual immorality; hatred, discord, jealousy, fits of rage, selfish ambition, dissensions, factions and envy; drunkenness, orgies and the like. I warn you, as I did before, that those who live like this will not inherit the kingdom of God" - NIV. For this school of thought, these scriptures clearly discourage alcohol consumption among Christians.

One can tell from the position of the Christianity religion that, it equally resonates with the two treatments used for the intervention.

Whether drink but not in excess or not to drink at all, it all comes to the same position of the twelve-step facilitation, which seeks help the individual

to recover from alcoholism and also the motivational interviewing which equally seeks to motivate the individual to make a decision or a choice to stop risky and abusive alcohol consumption.

In the case of the Islamic religion and for that matter Muslims, there are no verses in the Quran that clearly state that drinking alcohol is strictly forbidden. There is advice regarding the consumption of intoxicants. There is nothing said about alcohol being forbidden. The following verses are commonly cited to prove that alcohol is forbidden: “O you who have believed, indeed, intoxicants, gambling, [sacrificing on] stone altars [to other than God] and divining arrows are but defilement from the work of Satan, so avoid it that you may be successful” (Al Quran 5:90).

It is worth noting that, the verse tells believers of the Islamic religion to avoid drinking alcohol or anything that would intoxicate the mind if they wish to be successful. The emphasis here is successful in offering their prayers to God. Another verse states “they ask you about wine and gambling. Say, "In them is great sin and [yet, some] benefit for people. But their sin is greater than their benefit." (Al Quran 2:219). One can induce from the two quotations stated that, although the position of the Quran did not directly mention alcohol being a sin. It however, indirectly suggests that, for a believer’s prayer to be successful there is the need to abstain from alcohol.

By this, one can conclude that, the Islamic religion and its teachings also resonate with the two treatments used. They all seek to reduce risky or abusive alcohol consumption.

It was therefore possible for the participants with Islam background to have benefited from the treatment. The point need to be made that, despite the

positions of these three religious groups on alcohol, the teachings and the expected behaviour of the believers of these various religious groups, the religious factor did not prevent the students from consuming alcohol and harmful consumption for that matter since harmful consumption was reported across the three main religions as something the religions frown upon.

One might want to ask, if the religious factor was that key to the participants and because the treatment resonated with their religious teachings, they ended up benefiting from it, how come with the same religious backgrounds, they ended up in the risky and abusive consumption in the first place? The possible explanations for this could be the non-restricted campus life among the university students which allows all to mingle, associate and socialize with all irrespective of gender, ethnic, socio-economic or religion. There are Christian students that share room with Muslim students. They live and attend lectures in the same halls among others. It is therefore possible that, with anyone with the behaviour of risky and abusive alcohol consumption, the others can be influenced knowingly or unknowingly. For instance, it has been reported that, college students drink more, on average, than their non-college peers (Schulenberg, Maggs, Long, Sher, Gotham, Baer, Kivlahan, Marlatt, & Zucker, 2001).

College campuses and for that matter University campuses are metropolitan in nature. It has students from varying backgrounds both from foreign countries and the indigenes, rich and poor homes, well-mannered and unmannered.

When all of these students with the varying backgrounds meet to live or interact together, they end up forming new sub-cultures. Some of these sub-

cultures are alien to their original social culture but with time, it becomes part and parcel of their life and living. The implication is that, college campuses, then, may be places that foster drinking, as opposed to repelling it. Hence, it is predictable and explainable for a well-mannered student with strong religious background, without any history of alcohol consumption for instance to step foot into a university campus and be caught up with a new sub-culture or campus life which may include alcohol consumption. This could explain why there is alcohol consumption among the university students despite their religion backgrounds and teachings which seem to discourage alcohol consumption or risky alcohol use. There are also very few societies where alcohol beverages have not been enjoyed as part of local culture, as part of family and village life, or as part of religious and spiritual life long before written history (Heath, 2000).

Some implications for counselling, based on this findings are that, a person being religious or aligned with a belief does not immune the individual from engaging in conducts such as risky and abusive alcohol consumption. Another implication for counselling is that, irrespective of the clients' religious background, they can be put together in one group for counselling when using either the twelve-step or the motivational interviewing treatments.

Based on the findings in this study, which indicated that, only gender as a moderating variable that showed significant difference, with age and religious background not having significant difference, the researcher proposed a final conceptual model as per below

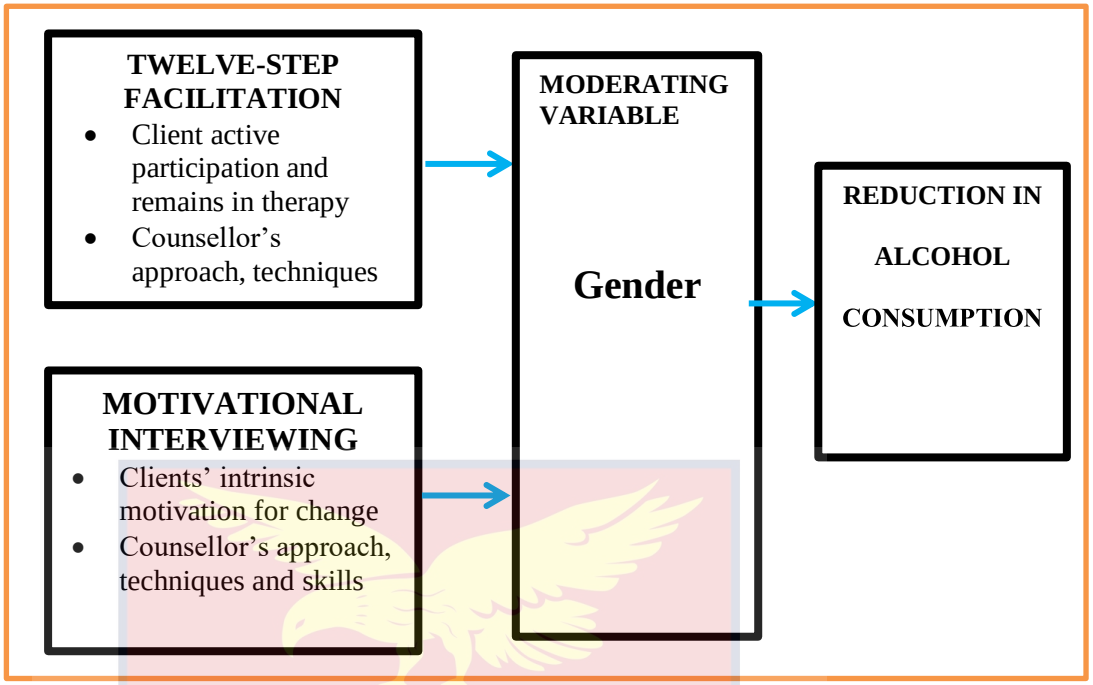


Figure 5: Diagram illustrating the final Conceptual Model

The final conceptual model shown above shows that, the usage of the twelve-step facilitation when underpinned by appropriate counsellor's counselling approach, techniques and skills which will cause the client to actively participate and remain in the treatment. The treatment worked for both males and females, the males however benefited more, implying that, the gender of the client can significantly influence the level of benefit.

Similarly, the motivational interviewing treatment, when underpinned by appropriate counsellor's approach, technique and skills is what will trigger clients' intrinsic motivation for change. The clients' gender however, will significantly determine the level of benefit they can derive from the treatment.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of the study was to test the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among undergraduate university students in the Central Region, Ghana. In order to achieve this purpose, four specific objectives were developed. They were; to ascertain the effects of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among the participants, to investigate the influence of gender on alcohol consumption among participants in the experimental groups, to determine the influence of age on alcohol consumption among participants in the experimental groups and to investigate the influence of religion on alcohol consumption among participants in the experimental groups. Subsequently, four corresponding hypotheses were stipulated and tested. They are:

H_O1: There is no significant effect of the twelve–step facilitation and motivational interviewing treatments on alcohol consumption among participants in the experimental groups

H_A1: There is significant effect of the twelve – step and motivational interviewing treatments on alcohol consumption among participants in the experimental groups.

H_O2: There is no significant difference in alcohol consumption among participants in the experimental groups with regard to gender.

H_A2: There is a significant difference in alcohol consumption among participants in the experimental groups with regard to gender.

H_O3: There is no significant difference in alcohol consumption among participants in the experimental groups on the basis of age

H_A3: There is significant difference in alcohol consumption among participants in the experimental groups on the basis of age

H_O4: There is no significant difference in alcohol consumption among participants in the experimental groups on the basis of religion

H_A4: There is significant difference in the alcohol consumption among participants in the experimental groups on the basis of religion

Based on the nature and direction of the study, quasi-experimental research design of the quantitative approach was adopted for the study. Quantitative research is an approach for testing objective theories, (in this case, the twelve-step and the motivational interviewing treatments) by examining the relationship among variables. The researcher was seeking to determine if the twelve-step and motivational interviewing treatments can influence the level of alcohol consumption among the participants. This was assessed by providing the two different counselling treatments to two different groups and withholding it from one group through nonrandomized assignments (Keppel, 1991). This design was based on the researcher's philosophical paradigm. The researcher associates himself with the post-positivism paradigm which represents the thinking after positivism, challenging the traditional notion held by positivists that truth of knowledge is absolute (Phillips & Burbules, 2000; Cresswell, 2014). Post-positivists hold a deterministic philosophy in which causes (probably) determine effects or outcomes. Thus, the problems studied by post-positivists reflect the need to identify and assess the causes that influence outcomes such as found in experiments.

It was on these bases that the researcher used experimental study. More specifically, the quasi-experimental research design was adopted because, the study involved humans in which case, it was not feasible to control all the internal and external validity because of the human elements. Although a quasi-experimental design lacks random assignment, it lends itself to assignments to conditions, that is, treatment versus no treatment and it is by means of self-selection or administrator selection. For this study, administrator selection was chosen. The treatment groups were selected from the University of Cape coast, University of Education, Winneba and the while the control group was selected from the Cape coast Technical University all in the Central Region of Ghana.

The Central Region was considered for two reasons. Considering that this was an experimental study (intervention study) and unlike in the case of surveys where data could be collected once or twice, in this case, it demanded that the researcher meet with the participants for the intervention treatments for a period of time. This coupled with the fact that, it was an academic research and time bound, spreading the experimental groups too wide apart, was going to cost more time for travels since the researcher was based in Cape coast at the time of the study. More so, the focus of the study was on university students in university campuses. The nature of university campuses is such that, they are metropolitan in nature with students from different geographical, ethical, and religious backgrounds. This implies that, all the characteristics or features for which reason it would have been prudent to consider other universities outside the central region, could still be obtained among this specific target group.

The Alcohol Consumption Inventory (ACI) adapted from the Alcohol Use Disorder Identification Test (AUDIT), a questionnaire developed by the World Health Organization, was used to collect data among the participants. Third year students (level 300) were chosen purposively for the study. This group of students was considered because, they appeared as a section of the students who were more assimilated in the university system and campus life than the first and second years owing to the number of years they have experienced the university campus life. Considering that, the final year students could have been the best when it comes to assimilation, they were however not considered because, they were not going to be available for the intervention since they were almost exiting the university system.

In each of the Universities, simple random sampling technique was used to select one academic department and one academic programme. Based on this, Social Science, Social Studies Education and Marketing programmes for UCC, UEW and CCTU were selected respectively. The accessible population for these intact groups were all administered with the questionnaire, that is (UCC – Social Science 160), (UEW – Social Studies Education 153), (CCTU – Marketing 57), totaling 370. Out of this, 87 met the criteria for inclusion. Subsequently, from the 87, 60 were selected using simple random sampling as the final sample size. Using ACI scoring, adopted from the AUDIT, which has four levels represented as; (0-7 scores) - healthy consumption, (8-15 scores) - risky consumption, (16-19 scores) - abuse consumption and (20-40 scores) – dependence consumption, the researcher concentrated on risky and abuse consumption levels only.

This was because, the healthy consumption per the name, does not pose danger as compared to the other levels of consumption. None of the respondents fell within the dependence level of consumption. Even if there were cases of dependence consumption level, they will need psychiatric intervention and not counselling. The study therefore focused on only the risky and abusive levels of consumption.

Two of the groups being the experimental groups; one for the twelve-step facilitation and another for the motivational interviewing were taken through group counselling sessions for a period of eight (8) weeks. After the intervention, the same Alcohol Consumption Inventory was administered to determine significant differences. The twenty (20) participants in the control group were taken through the twelve-step treatment after the actual experiment. Data were analyzed using a one-way ANCOVA and two-way ANCOVA for hypothesis one and hypotheses two to four respectively. A summary of the results of the study by hypothesis showed as follows:

For hypothesis one, which sought to find out if there is significant effect of the twelve-step facilitation and motivational interviewing treatments on alcohol consumption among the participants in the experimental groups. The result indicated a statistically significant difference in the post-test scores of the participants in the three groups after controlling for their pre-test scores. The magnitude of the difference was large 82%, and this was explained by the groups, indicating that, both the twelve-step facilitation and the motivational interviewing treatments had significant effect on alcohol consumption of the participants. However, further analysis also showed that, the effect of the twelve-step facilitation was higher than that of the motivational interviewing

treatment. Based on the results of the study, the null hypothesis for the hypothesis one was rejected in favour of the alternate hypothesis.

The results for hypothesis two, which sought to ascertain if there was significant difference in alcohol consumption among participants in the experimental groups with regard to gender showed that, there was a significant gender effect. The result showed there is significant difference in the response of participants in the experimental group to the intervention on the basis of gender. This implies that, the gender of the participants in counselling treatment using the twelve-step and the motivational interviewing can influence how they respond to the treatment. In view of this, the null hypothesis was rejected in favour of the alternate hypothesis. Further analysis also showed that, the males responded more positively than the females.

The results for hypothesis three, which sought to ascertain if there was significant difference in the alcohol consumption among participants in the experimental groups on the basis of age, showed there was no statistically significant effect between. The result showed just 2% of the variance in the post-test scores being explained by the age, indicating that; age category did not discriminate against the effectiveness of both treatments. The mean scores for participants in the motivational interviewing group were approximately the same across the various age groups. Similarly, the mean scores for participants from the ages of 21-24 years and 25 years and beyond were approximately the same, however, that of participants aged 17-20 appeared to differ but this was still insignificant. From the above, it is clear that, age category does not discriminate among the effectiveness of both treatments. Owing to the evidence in favour of the null hypothesis, we fail to reject the null Hypothesis.

The result for Hypothesis four, which sought to ascertain if there was significant difference in the alcohol consumption among participants in the experimental groups on the basis of religion background showed that, there was no significant effect. This implies that, irrespective of participants' religion background, both therapies equally worked for the participants. Interaction between the groups and religion background explained only 1% of the variance in the post-test scores.

The results showed that, among participants in the motivational interviewing group, the mean scores were approximately the same for all the religious groups; Moslem, Christian, Traditional African Believer. This result was similar to participants in the twelve-step facilitation group; Moslem, Christian, African Traditional Believer. This, therefore, implies that, irrespective of participants' religious background, both therapies work equally. Owing to this, the study fails to reject the null hypothesis.

Conclusions

Based on the results from the main data or the findings, the following conclusions were arrived at: The study found out that the two counselling treatments (the twelve-step facilitation and motivational interviewing) used for the intervention were effective in reducing alcohol consumption among the participants (university students). The study, therefore, concludes that, in counselling situations, involving risky and abusive alcohol consumption among university students, the two therapies can reduce the level of consumption significantly. In other words, both the twelve-step facilitation and motivational interviewing treatments will be effective to use. The difference in the level of efficacy could be attributed to the nature and

procedures of the two counseling treatments. The twelve-step facilitation is more inclined to spirituality, whilst the motivational interviewing is more cognitive or intellectually oriented.

Another key finding of the study revealed that, gender had significant influence on the effectiveness of the twelve-step facilitation and motivational interviewing treatments, indicating that, the therapies do not work equally for males and females. The males recovered better in the two therapies than the females. Males are noted for heavy drinking as compared to the females. Perhaps, owing to this, the males were more motivated to recover from the alcohol consumption more than the females. The conclusion is that, male students who engage in risky and abusive alcohol consumption in counselling intervention using the twelve-step facilitation and the motivational interview are more likely to benefit more from the therapies than the females. By extension, it can also be concluded that, a female university student who end up engaging in risky and abusive alcohol consumption was probably socialized in a way that exposed her to the drinking in earlier experiences or is faced with a psychological challenge and will therefore find it difficult to respond to these counselling treatments compared with the male counterparts.

The study revealed that, a significant majority of students who engaged in risky or abusive alcohol consumption were males (70%) as against 30% of their female counterparts. It must be stated that this is an expected finding. This notwithstanding, looking at our socio-cultural settings, where, in Ghana, there seems to be stereotype of women who engage in alcohol consumption, it is possible that, more than the number of the women reported in this study consume alcohol but might have failed to report same owing to the stereotype.

It goes to confirm the existing literature and knowledge that, men engage in risky alcohol consumption more than women, with part of the reasons being the seemingly more dangers it comes with among women than in men and the generally aggressive nature of men whiles women are generally less aggressive .

It also leads to the conclusion that, in societies, institutions, associations, unions, clubs and groups that have more male members than the female members, such groups will be at risk when it comes to risky and abusive alcohol consumption than societies, institutions, associations, unions, clubs and groups with the same or almost the same proportion of men and women. This is so, especially when one attaches the direct and indirect effects of risky alcohol consumption coupled with the increasing availability of alcohol and the enticing marketing strategies being adopted by producers and marketers of alcohol using both electronic and print media. There have been situations where people are on record to have mentioned that, they engaged in rape or other forms of anti-social behaviour as a result of risky and abusive alcohol consumption behaviour.

The study also revealed that, age category did not influence participants' response to both treatments. Implying that, irrespective of one's age bracket of the university students, whether late adolescence stage (17-20), youthful stage (21-24) or early adult stage (25+) as categorized in this study, they are all likely to benefit from the two treatments equally. This finding is to be expected because, all though there were varying age brackets, all the participants possessed homogenous characteristics. They were all third year university students, could read and make meaning from the treatment

procedures. According the Piaget's stages of cognitive development, all the age brackets are in a state to engage in abstract thinking.

This is relevant because, both therapies require some form of abstract thinking, critical and logical reasoning and even philosophizing in some case. Based on this finding, the study concludes that, any university student of age 17 years and above can benefit from the twelve-step facilitation and the motivational interviewing counselling treatments.

The study revealed that, the students who engaged in the risky and abusive alcohol consumption belong to three main religious backgrounds, i.e. Muslims, Christians and African Traditional Believers. Although Christians formed the majority, followed by the Muslims and the African Traditional Religion, one can conclude that, it only conforms to the national religious statistics and had no implication on the religion background. The study revealed that, religious background did not discriminate the way and manner the participants reacted to the treatment. The conclusion arrived at is that, both treatments work for all students irrespective of their religious background. More so, one can conclude that, irrespective of the religious background; students are very likely to engage in risky and abusive alcohol consumption. This is to be expected, especially looking at the cosmopolitan nature of the university system where students with different religious background mingle and interact together at halls of residence, lecture halls, at the programme levels; they end up developing or building a common sub-culture with their corresponding lifestyles.

Overall, the effects of the two counselling treatments have been established in this study. It is the opinion of the researcher that, this study

could be used in a practical sense owing to the intervention approached used to systematically help students who abuse alcohol to reduce their risky and abusive alcohol consumption behaviour.

The new insight revealed by this study is that; based on the outcome, this study has established that, an intervention study is capable of reducing drug related problems among university students. It was also revealed that, different counselling treatments with their corresponding philosophical underpinnings, approaches, procedures and facilitation skills are likely to influence the outcome so far as these stated elements vary. Again, another new insight revealed was that, with the exception of gender, age and religious background are not likely to influence a counselling intervention when using established or standardized techniques and facilitated by trained experts influences.

The study has contributed to the better understanding of the phenomenon in many ways. The study has established that, alcohol consumption is likely to be more common among men than among female which supports existing literature. It is also the case that, the study has contributed to identifying tools or counselling therapies that can be effective in reducing alcohol consumption. It has been established by this study that, both the twelve-step facilitation and the motivational interviewing were effective in reducing alcohol consumption among the participants (university students). Counsellors and para-counsellors that might not be aware of the efficacies of these two therapies could have their capacities built with two more workable tools.

It was also established that, apart from gender, age and religious background, the two treatments work relatively equal. In the same vein, through this study, we get to understand that, religion, despite how critical it is in our Ghanaian context, did not influence alcohol consumption among university students. It goes to point out that, some anti-social behaviour that society abhors, such as risky and abusive alcohol consumption could be exhibited among university students on campuses.

Recommendations

The result for the study revealed that, both the twelve-step facilitation and the motivational interviewing treatments were effective in reducing risky and abusive alcohol consumption among the participants. Based on this, it is recommended that, university counsellors should use the twelve-step facilitation and the motivational interviewing treatments to counsel students who engaged in risky and abusive alcohol consumption.

The two treatments are relatively new counselling interventions in Ghanaian counselling practice. It is therefore, recommended that therapists or counsellors should be trained by universities and the Ghana Psychological Association on the twelve-step facilitation and the motivational interviewing treatments before they use them in treatments. This is critical in the sense that, without a thorough understanding of the assumptions and philosophical inclinations of the two treatments, coupled with the sensitivity in the facilitation processes, the goals of treatment and the facilitation skills, the counselling goals may not be achieved.

Again, the result showed that, gender i.e. male and female participants reacted significantly different to the treatment.

More specifically, the males reacted positively better than the females. Owing to this, it is recommended that, counsellors should give preference to the two treatments i.e. the twelve-step facilitation and the motivational interviewing when a male client is involved and use them for female clients sparingly as the males respond better.

Implications for counselling on this finding are that, although both females and males can benefit from the two therapies, females involved in risky and abusive alcohol consumption, are likely to take longer time in treatment or to recover as compared to their male counterparts. Counsellors therefore ought to be patient and manage their expectations when it comes to the recovery of the female clients with risky alcohol consumption. Another implication for counselling is that, the characteristics of males and that of female counsellees, more especially as it pertains to them when under the influence of alcohol, should be factored in determining the counselling techniques and the way and manner counselling skills are deployed.

Also, the vulnerability of the male students engaging in risky alcohol consumption and knowing that some of the students reside together, engage in academic studies and come together for other social events, poses potential threats of harm to their colleague male and the female students and for that matter, the entire university community and their surroundings. Again, it is recommended that, Hall Counsellors and Hall Masters in the various universities take steps to identify, train and assign volunteer Peer Counsellors with clear terms of reference and job description to keep the sensitization on-gong among the students body in every academic semester.

More so, on the basis of age not having significant influence on the treatment, it is recommended that, in using the twelve-step facilitation and the motivational interviewing treatments, counsellors should not use age as a bases or limiting factor, as it has proven not to influence the two treatments in any significant way. Clients can therefore be made to participate in group counselling using the twelve-step facilitation and the motivational interviewing treatments irrespective of relative age differences. There is also evidence in this study, which led to the conclusion that, alcohol consumption declines with age. Putting the three age brackets identified and used in this study in context implied that, the youthful age bracket or group (21 – 24years) are more vulnerable and at risk than any other age category of university students. It is therefore recommended that, apart from the general sensitization for the entire students body, special group guidance and group counselling sessions should be held with this group by the counselling centres so that the students will be are aware of their unique predicament and take precautions.

Owing to age brackets and psychological characteristics that go with it, it is also recommended that, critical thinking and logical reasoning be introduced as a liberal course in the universities that do not have this already at the three Universities under study. For the universities that have already incorporated critical thinking and logical reasoning in their academic modules, it is recommended that, the teaching and facilitation of the course be moved from the typical abstract nature and be made more practically oriented. They facilitators should cite practical situations and scenarios that will demand application of the knowledge acquired in real life scenarios. Case studies should be used to sharpen the students' level of reasoning and value

judgement. This is needful since cognition play a role in how one interprets events, how meanings are gained and how experiences are utilized in new settings. In the same vein, the decision on whether to engage in risky alcohol consumption or not could also be influenced by the level of critical thinking which could help expose the side effects, hence the need for this recommendation.

The findings on religion background showed that, religion background of the participants i.e. (Islam, Christianity and African Traditional belief) did not have any significant effect on the participants in the treatment. Counsellors should therefore not allow religiosity as exhibited by clients to prevent them from seeing behind the veil. It is therefore recommended that, the two treatments should be made available and use for all clients with risky and abusive alcohol consumption irrespective of their religion.

Suggestions for Further Research

It is suggested that, further research be carried out to establish the extent to which risky and abusive alcohol consumption among the Ghanaian university students affect their academic achievement. This, when done, will help highlight further, the ripple effects of the alcohol consumption phenomenon.

The gender difference in responding to the two treatments regarding this study needs further investigation. It is therefore suggested that, further studies be carried out to explore the effect of gender and other variables which were not considered in this study.

Moreover, it is suggested that, other counselling therapies such as family therapy, behavioural therapy, cognitive analytical therapy, gestalt

therapy among others be tested to ascertain their effectiveness in resolving the issue of risky alcohol consumption.

It is also suggested that, further research be carried out to identify the counselling needs of the university students in correlation to the expertise and capacity of the counselling centres in our universities in terms of human resource, appropriate material resource and financial resource than can match up and cater for the identified counselling needs in a meaningful way.

Again, Owing to the focus of this study which was conducted among Ghanaian university students, it is suggested that, further research be carried out in the senior high schools. Scientific evidence shows that, the phenomenon also pertains in the senior high schools and a study with this target group will indirectly nip the problem in the bud.

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APPENDICES
APPENDIX A – ALCOHOL CONSUMPTION INVENTORY QUESTIONNAIRE
UNIVERSITY OF CAPE COAST
DEPARTMENT OF GUIDANCE AND COUNSELLING
ACI QUESTIONNAIRE FOR STUDENTS

This seeks to ascertain the level of alcohol consumption among students. In view of this, I request of you to kindly fill this questionnaire. Note that your response to the questions will be used for academic purpose and will be treated confidential.

Section A: Background Information

1. **Gender**: Male [ ] Female[ ]
2. **Age**: 17 - 20yrs [ ] 21 – 24yrs [ ] 25yrs and above [ ]
3. **Religion**: Islam [ ] Christianity [ ] African Tradition [ ] Others [ ]

Section B. Alcohol Consumption Inventory

Kindly answer the following by ticking (√) inside the appropriate column for each question

S/N	Question Item	Scores				
		0	**1**	**2**	**3**	**4**
4	How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a Month	2 to 3 times a week	4 or more times a week
5	How many drinks containing alcohol do you have on a typical day when you are drinking?	None	2 to 4	5 or 6	7 to 9	10 or more
6	How often do you have more than five or more alcoholic drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7	How often during the last year have you found that you were not able to stop drinking once you had started	Never	Less than monthly	Monthly	Weekly	Daily or almost Daily
8	How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

S/N	Question Item	Scores				
		0	1	2	3	4
9	How often during the last year have you need a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
10	How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
11	How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
12	Have you or someone else been injured because of your drinking?	No	Less than monthly	Yes, but not in the last year	Weekly	Yes, during the last year
13	Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?	No	Less than monthly	Yes, but not in the last year	Weekly	Yes, during the last year

Mobile Number ……

Thank you

APPENDIX C – INFORMED CONSENT FORM
UNIVERSITY OF CAPE COAST
INSTITUTIONAL REVIEW BOARD
INFORMED CONSENT FORM

Title: Effects of the Twelve-Step facilitation and motivational interviewing treatments on alcohol consumption among undergraduate university students in the Central Region, Ghana.

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General information about the Research

The study seeks to assess the effects of the Twelve-Step facilitation and motivational interviewing treatments on alcohol consumption among Ghanaian university students. It will look at the effects of the two therapies on the basis of gender, age and religion.

The philosophical assumptions of the study will be post-positivism and the quantitative approach will be used. The study will make use of the quasi-experimental design.

The participants for the study will be undergraduate university students in the Central Region of Ghana. The procedure for data collection will be done using adapted instrument (Alcohol Use Inventory) from Alcohol Use Disorder Identification Test (AUDIT). The privacy of the participants and confidentiality issues will be given a paramount consideration.

There will be three groups in all. These will be made up of two intervention groups and one control group. Selection into the groups will be based on the scores of the participants per the AUDIT rating for the baseline data. Twenty most serious cases within the risky and abuse levels will be selected for the main study. This is because, those within the healthy level are not at risk and those within the dependent level needs more than counselling and so will be referred as such if any.

Procedures

To find answers to reducing risky alcohol consumption behaviour, we invite you to take part in this research project. If you accept this invitation, you will be required to participate in three different levels of the study. The first will be the pre-intervention stage, where you will be required to fill a two page 13 question items Alcohol Consumption Inventory (A.C.I) questionnaire that will take maximum 15minutes to complete. Based on the scoring of your responses to the questionnaire, you may be invited for the second stage which is the group counselling intervention stage. This may last between 6-8 weeks with at most twelve group counselling sessions. It will mostly be once a week with two meetings per week occasionally. Each group counselling session will last minimum 45minutes and maximum one hour. The sessions will take place at your campus. You will be engaged with behaviour modification treatment techniques. Your involvement by way of sharing experiences, answering questions and asking questions you want to ask will be required. You are also likely to be given assignments as and when needful to aid the behaviour modification.

The final stage is the post intervention stage where the same A.C.I. questionnaire will be given to you for your responses. It will take you maximum 15minutes to complete and this is to help determine the effects of the treatment sessions with you.

In the course of the entire engagements with you, If you do not wish to answer any of the questions on the questionnaire or during the intervention counselling sessions, you may skip them and move on to the next question. Some of the question items are likely to be embarrassing to you, however, note that it is to help unearth all the possible causes of the phenomenon and to inform the treatment procedure. More so, your responses will be anonymized to protect your identity. The questionnaire will be presented to you to answer on your own. However if you experience any difficulty in filling them, my team and I would be available to assist you. The information recorded is considered confidential, and no one else except the supervisors and me will have access to your input.

Possible risk and discomfort

The possible risk and discomfort that you are likely to face include, meeting with colleague students who might not be your friends or know of your drinking habit. However, these other students you are likely to meet are people with similar habits and will be made to know the essence of confidentiality and confidentiality measures will be put in place to make our secrets secret. This will be done by taking all participants through the purpose and importance of secrecy and confidentiality for our engagement.

You are also likely to be exposed to therapeutic treatments that might make you uncomfortable and challenge your present drinking habit. However, these treatments will be introduced to you and a briefing on the various components. It will only be administered with your willingness to participate or change from your present habit

Possible Benefits

You are likely to become more aware of some of the dangers associated with risky alcohol consumption and its abuse.

You will also be equipped with strategies in sustaining a healthy behaviour. As you participate in the intervention, you will begin to realize some of the flaws that probably got you into the risky alcohol consumption behaviour, the dangers it poses to you and your loved ones and how to overcome this challenge.

This can serve as motivation to you to desire positive change in alcohol consumption. For those who will be in the controlled group, if the treatments worked on reducing or overcoming risky alcohol behaviour, I will meet with you privately to take you through the intervention, discuss the essence of counselling so as to improve your unhealthy alcohol consumption behaviour. Generally, you will be contributing to finding a solution to a bigger societal behaviour problem

Alternatives to Participation

This study seeks to offer the possibility to be taken through treatment intervention that will equip participants with the appropriate information, skills and strategies to improve and possibly overcome risky and abuse alcohol consumption behaviour.

Confidentiality

Bearing in mind that, the hallmark of counselling is confidentiality and the sensitive nature of this study, the following measures will be taken to ensure confidentiality at every stage of the study. All data and information obtained from you will be used only for academic purposes. All sessions, questions and question items will be such that, your identity is protected. The questionnaire will not seek for your name or any form of personal identity. Only the main researcher and his supervisors are likely to sight the questionnaire after it has been responded to. Secondly, only participants and two members of the research team who are professional counsellors are likely to be present during the counselling sessions. The two research assistants will only be engaged during the baseline and post-intervention data collections.

More so, there will be detailed orientation and sensitization for all participants on keeping our secrets secret. Recordings of the sessions will be stored, locked and kept by only the main researcher.

The meeting place for the counselling sessions will not be in the open where any passer-by will be able to see you. It will be held in a confined place.

Compensation

Your willingness, availability and efforts will be duly compensated. Your welfare during each counselling session will be cared for. Water and snacks and transportation where applicable will be provided. More so, at the end of the entire session, you will be provided with technical assistance in the area of your research work as well since you are a student and will be required to undertake a scientific study as part of the requirements for the award of degrees. Stipends of Gh50 will also be given to show appreciation

Voluntary Participation and Right to Leave the Research

Participation in this study is voluntary, i.e. you have the right to decide not to participate in the study. Further, you may withdraw from this research at any point in time and you may refuse to answer any of the questions without any consequences.

Contacts for Additional Information

In case you have any questions or want to report any research related injury or abuse, please do not hesitate to call my principal supervisor, Prof. Godwin Awabil on 0246573716 and my co supervisor, Rev. Fr. Dr. Anthony K. Nkyi on 0203567025

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of University of Cape Coast (UCCIRB). If you have any questions about your rights as a research participant you can contact the Administrator at the IRB Office between the hours of 8:00 am and 4:30 p.m. through the phones lines 0332133172 and 0244207814 or email address: irb@ucc.edu.gh.

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title, effects of the Twelve-Step facilitation and motivational interviewing treatments on alcohol consumption among Ghanaian university students, has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Name and signature or mark of volunteer Date

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

_____ _____

Name and signature or mark of volunteer Date

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

APPENDIX D – TWELVE-STEP FACILITATION TREATMENT MANUAL

THE TWELVE-STEP FACILITATION TREATMENT ON ALCOHOL CONSUMPTION AMONG GHANAIAN UNIVERSITY STUDENTS DEVELOPED

BY

CHRISTIAN EVADZI

UNIVERSITY OF CAPE COAST, COLLEGE OF EDUCATION STUDIES, FACULTY OF EDUCATIONAL FOUNDATIONS, DEPARTMENT OF GUIDANCE AND COUNSELLING

2018

PREAMBLE

This treatment manual is intended for use in brief treatment for persons who satisfy the criteria for a diagnosis of alcohol consumption and abuse. The overall goal of this treatment is to facilitate clients' active participation with regard to active involvement as the primary factor responsible for sustained sobriety ("recovery") and, therefore, as the desired outcome of participation in this programme.

This therapy is grounded in the concept of alcoholism as a spiritual and medical disease, owing to this, each session is to begin with the prayer of serenity "God grant me the serenity to accept the things I cannot change, courage to change the things I can and wisdom to know the difference" The content of this intervention is consistent with the Twelve steps of Alcoholics Anonymous (AA). In addition to abstinence from alcohol, a major goal of the treatment is to foster the clients' commitment to participation in AA. During the course of the sessions, clients should be actively encouraged to attend AA meetings and to maintain journals of their AA attendance and participation after the intervention. Therapy sessions will be highly structured, following a similar format each week that includes symptoms inquiry, review and reinforcement for AA participation, introduction and explication of the week's theme, and setting goals for AA participation for the next week. Material should be introduced during treatment sessions and should be complemented by reading assignments from AA literature.

There should be an average of fourteen (14) counselling sessions (AA meetings) in all. Each session should last maximum one (1) hour and minimum forty-five (45) minutes. In the proceeding sessions after each session, previous sessions should be reviewed before a new topic is introduced.

The sessions should be interactive as much as possible. Each session should begin with prayer and also end with prayer (Christian, Muslim and others as far as participants belong to these religious affiliations). Apart from this, each session is to begin with the prayer of serenity "God grant me the serenity to accept the things I cannot change, courage to change the things I can and wisdom to know the difference"

SESSION ONE (1) – ENTRY MEETING

Step one

1. The Counsellor/therapist should introduce him/herself and allow the participants (counsellees) to also do same (Name, age, birth position, programme of study, career aspiration). The therapist to introduce the 12-step therapy and provides an overview (including its goal, and active involvement in AA).

Step two

2. The Counsellor should brief the participants/clients on the nature of the group, meetings, and in consultation with the participants, indicate the meeting days, the venue, the time, duration and medium of communication during

counselling sessions and should there be a change in any of the above at any point in time of the counselling relationship Step three

3. The Counsellor then moves to assess the clients' need through a brief intake interview (how the drinking behaviour started, efforts made to stop etc.) and leads the participants to set treatment goals and strategies for the achievement of the intervention goals through discussions. The Counsellor as the next point of discussion, should lead the participants to discuss the likely constraints and opportunities for meeting clients' needs and goals they seek to achieve

   Step four

4. The facilitator should outline methods for evaluating progress and outcome. This should bring the first session to an end

SESSION TWO (2) –ADMIT AND SURRENDER.

This is the beginning of the actual intervention of the Twelve-step facilitation. The first step is "admit and surrender" The objective of this step is to get the clients to admit their condition i.e. powerlessness over alcohol and also to surrender to a higher power. The counsellor is to provide and facilitate psychoeducational discussion on the following spiritual principles (i) honesty (ii) open mindedness, (iii) willingness (iv) humility (v) acceptance. This is to be interactive by bringing in the participants to contribute and ask questions as well. The discussions should aim at getting the participants to find the need to admit their condition which is believed to be the beginning of change. When the clients accept that, they were not powerful enough to overcome risky alcohol consumption and that is how come they find themselves in the situation, it afford them to look out to a superpower for dependence

SESSION THREE (3) – RECOGNITION OF A GREATER POWER

The step two is "recognition of a greater power". The objective for this step is to assist the participants/clients to come to believe that, despite their powerlessness over alcohol, there is a power greater than them that could restore them to sanity. The counsellor is therefore to facilitate discussions around the following sub-topics expected to lead to the recognition of a greater power: (i) hope (ii) insanity (iii) coming to believe, (iv) a power greater than ourselves (v) restore to sanity. These are to be taken one after the other seeking the perspectives of the clients. The counsellor is to bear in mind that, this second step is a process and not an event. The counsellor should ensure that the session is interactive acknowledging the different reference points as the source of power since the participants could believe in different sources of power or varying views on greater power

SESSION FOUR (4) - DECISION TO TURN WILL AND LIVE TO GOD

The step three of the twelve steps is "decision to turn will and live to God" If the hope inspired in step two is not put into action, one might end up going back to the state of hopelessness. The objective for this step is to assist the participants to make a decision to turn their lives and will to the care of the God of their understanding. To achieve this, the counsellor is to facilitate a discussion for the clients to make the central action of decision for God to care for them. The discussion should centre on these key sub-topics (i) decision making (ii) self-will (iii) the God of our understanding (iv) commitment

SESSION FIVE (5) – SEARCHING AND FEARLESS MORAL INVENTORY

The fourth step is "searching and fearless moral inventory". It is a method for the participants to learn about themselves to know the exact nature of the have committed in the past owing to risky consumption of alcohol. The objective is for the counsellor to assist the clients to lay bare unresolved pain and conflict in their past. The following sub-topics should guide the discussion of the main topic (i) motivation for the moral inventory (ii) individual inventory of themselves using notes. These should be done by all (iii) searching and fearless (iv) resentments (v) feelings (vi) guilt and shame (vii) fear and relationship (viii) sex (ix) abuse (x) assets (xi) secrets

SESSION SIX - COURAGE AND SENSE OF TRUST

The step five of the twelve-steps is "courage and sense of trust". Having admitted to their powerlessness, the need for help, a power that could help them, it is needful to draw on their experiences with these admissions. The objective for this step is to help the participants build strong and develops working trust and relationship with the counsellor and other participants in the group. The counsellor will encourage trust and assure confidentiality. The discussion will be guided by the following sub-topics (i) facing fears (ii) admitted to God, to ourselves and to other human beings (iii) trust (iv)courage (v) self-honesty

SESSION SEVEN – READINESS TO HAVE GOD REMOVE DEFECTS OF CHARACTER

The first five steps kind of prepared the participants for this sixth step which is "readiness to have God move defects of character". The therapist is to help the clients appreciate their humility, having gone through the first five stages. The objective for this step is to assist the participants to be entirely ready to let go defects held for a long time. To achieve this, the facilitator should guide a discussion around raising awareness of character defects (i) entirely ready for removal of defects of character? (ii) defects of character (iii) spiritual principles

SESSION EIGHT – ASKING HIM TO REMOVE SHORTCOMINGS

The step seven which is asking "Him to remove shortcomings" seeks to get the counsellees to move beyond the words to taking action that will invite God to take away their shortcomings. The counsellor should focus on spiritual principles in the treatment process and not religion or denominational doctrines. Sub topics such as surrender, trust and faith, patience and humility should be discussed

SESSION NINE – MAKING A LIST OF ALL PERSONS HARMED AND WILLINGNESS TO MAKE AMENDS TO THEM ALL

This is the step eight of the twelve steps which is "making a list of all persons harmed and willingness to make amends to them all" This step is where the treatment seeks to bring other people into the healing process.

This step is about identifying the damages the client(s) might have caused to other people. The objective is to get some misconceptions out of the way such as the people they harmed deserved it and repair relationships. The counsellor

is to (i) get each client to list the people harmed and how they harmed them. This must be done on paper (ii) also discuss becoming willing to make amends, the way forward and how to go about it

SESSION TEN – MAKING DIRECT AMENDS
The ninth step is" making direct amends". The objective for this step is to help the clients gain the willingness to make amends through acceptance of personal responsibility. The counsellor's role is to lead discussions around the following sub-topics (i) amends (ii) fears and expectations (iii) direct and indirect amends (iv) forgiveness (v) making amends. Each client is to come up with his/her own approach to making amends. It should be done and a follow up conducted by the counsellor for feedback

SESSION ELEVEN – STEP TEN – TAKING PERSONAL INVENTORY AND ADMIT WRONG DOINGS.
The step ten which is" taking personal inventory and admit wrong doings" is with the objective of assisting the clients to notice in case they are going off the right way and work to change it. It is to see how far the client has come towards recovery, what is being done right and what is being done wrong. To achieve this, the counsellor is to facilitate the discussion around the following (i) feeling versus doing (ii) wright and wrong (iii) self-discipline (iv) honesty (v) integrity

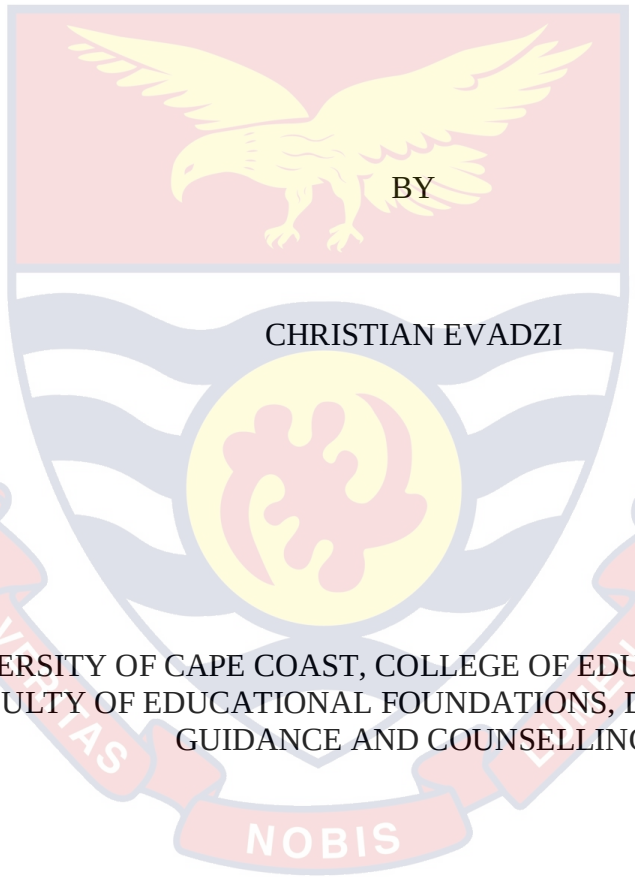
SESSION TWELVE – IMPROVING CONSCIOUS CONTACT WITH GOD THROUGH PRAYER AND MEDITATION
The step eleven is "improving conscious contact with God through prayer and meditation. The objective for this step is to assist the clients to explore their spiritual path and picks up and discards practices that don't aid their healing. The treatment should focus on prayer and meditation, conscious contact, the power to carry out. Others are (i) commitment (ii) humility (iii) courage (iv) faith. Participants could also be encouraged to read around meditation

SESSION THIRTEEN – CARRYING THE MESSAGE TO OTHER ADDICTS AND PRACTICING THE PRINCIPLES IN ALL AFFAIRS
This is the twelfth and the final step of the twelve steps treatment. The objective for this step "carrying the message to other addicts and practicing the principles in all affairs is to get the participants to carry out the message of the twelve-step to other addicts or alcohol abusers and to practice what they have learnt throughout the twelve-steps in all of their affairs. This step will focus on how to carry out the message of the twelve-steps. The conversations should centre around (i) what kind of service works (ii) what message to carry to other addicts (iii) unconditional love (iv) selflessness (v) steadfastness

SESSION FOURTEEN – EXIT MEETING
This is the final session of the treatment. The counsellor is to administer the alcohol use inventory so as to determine the effects of the treatment. Participants should be given the opportunity to give their remarks, share their experiences and fears. The counsellor to close the treatment and assure his/her availability for any future challenges

APPENDIX E - MOTIVATIONAL INTERVIEWING TREATMENT MANUAL

MOTIVATIONAL INTERVIEWING TREATMENT ON ALCOHOL CONSUMPTION AMONG UNIVERSITY STUDENTS IN THE CENTRAL REGION, GHANA DEVELOPED



BY

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PREAMBLE

Motivational Interviewing (MI) therapy is based on principles of motivational psychology and is designed to produce rapid, internally motivated change. This treatment strategy does not attempt to guide and train the client, step by step, through recovery, but instead, employs motivational strategies to mobilize the client's own resources. MI consists of four (4) carefully planned and individualized treatment sessions. The first two sessions focus on structured feedback from the initial assessment, future plans, and motivation for change. The final two sessions at the midpoint and end of treatment provide opportunities for the therapist to reinforce progress, encourage reassessment, and provide an objective perspective on the process of change. The general therapeutic principles underlying MI can be applied to many other ways than those delineated (Miller & Rollnick, 1991). The MI approach begins with the assumptions that, the responsibility and capability for change lie within the client**.** Therapist task is to create a set of conditions that will enhance the client's own motivation for and commitment to change. MI seeks to support intrinsic motivation for change which will lead the client to initiate, persist in and comply with behaviour change efforts. The treatment should therefore be preceded by an extensive assessment by administration of the Alcohol Consumption Inventory (ACI) so as to be able to establish sobriety

STAGES OF MI TREATMENT

Phase One (1) - Building motivation for change

Session one – Entry Meeting

(i) Step One - Establish rapport

The first session, which is the entry meeting, should be used to take care of protocol issues. The counsellor/therapist should establish rapport with and among the clients/participants by introducing him/herself and giving the opportunity for the clients/participants to do same. Clients/participants should be briefed on the need to introduce themselves and encouraged to do same by mentioning their name, programme offered if in academic programme, the year or level, birth position, among others as they might be willing to.

(ii) Step Two – Discussion of meeting protocols

The Counsellor together with the participants are to discuss and agree on the schedule of meetings i.e. meeting days, time, duration, place of meeting and channels of communication as it will favour both parties .

The number of sessions to be held in all for the engagement and any anticipated exigencies must also be discussed. The counsellor must also take the pain to find out where the participants will be coming from in the case of non-residential interventions and think through with the participants for possible best means of transportation and arrangements. More so, the contact numbers of the participants and that of the therapist should be shared for follow-ups

(iii) Step Three – Briefings on the MI (nature and procedures)

The counsellor should brief the clients/participants on the nature, proceedings of MI and expected inputs from the participants. The four phases of the entire treatment and what is involved in each phase should be discussed briefly with the participants

(iv) Step Four – Setting treatment goals
The setting of treatment goals is key component of this phase. The counsellor should be guided not to impose anything or put across high expectations. The Counsellor is to facilitate the clients/participants to set the treatment goals i.e. the kind and levels of achievement they want to see at each step of the therapy, how they intend to work at it and how to measure the attainment of the goals should all be discussed and documented

Session two, three and four- Eliciting self-motivational statements
The focus of this session is to provide structured feedback from the initial assessments (baseline data) regarding problem associated with problem drinking, level of consumption and related symptoms, decisional considerations, and future plans. The stages of transtheoretical model of behaviour change, commonly referred to as stages of change model should guide this session

a) Step one - Get the clients to acknowledge real or potential problems related to drinking and express a need, desire or willingness to change

To elicit such statements from clients, ask them directly via open –ended questions. Example; I assume, from the fact that you are here, that you have been having some concerns or difficulties related to your drinking. Tell me about those.

Tell me a little about your drinking. What do you like about drinking? What's positive about drinking for you? And what's the other side? What are your worries about drinking?

Tell me what you've noticed about your drinking. How has it changed over time? What things have you noticed that concern you that you think could be problems or might become problems?

What have other people told you about your drinking? What are other people worried about?

What makes you think that perhaps you need to make a change in your drinking?

Once this process is rolling, simply keep it going by using reflective listening skills by asking for examples "what else?" and so forth. If it bogs down, the counsellor can catalog general areas such as tolerance, memory, relationships, health, legal and financial

Key issues to note

Empathy

The eliciting strategies are likely to evoke some initial offerings but it is also crucial how the counsellor responds to clients statements. Accurate empathy or active listening is an optimal response

Questioning

Questioning is also an important therapist response. Rather than telling clients how they should feel or what to do, the therapist should ask clients about their own feelings, ideas, concerns, and plans. Elicited information is then responded to with empathic reflection

Affirming the client

The counsellor should also seek opportunities to affirm, compliment and reinforce the clients sincerely.

Such affirmations can be beneficial in strengthening the working relationship, enhancing the attitude of self-responsibility, reinforcing effort and self-motivational statements and supporting client self-esteem. Example: I appreciate your hanging in there through this feedback which must be challenging to you. I think it is great that you are strong enough to recognize the risk here and that you want to do something before it gets more serious.

Handling resistance

Client resistance is a legitimate concern. Failure to comply with a therapist's instructions and resistant behaviours within treatment sessions (e.g. arguing, interrupting, and denying a problem) are responses that predict poor treatment outcome. As much as possible, the counsellor must avoid evoking client resistance. Never meet resistance head on by arguing, disagreeing or challenging, judging, criticizing or blaming, warning of negative consequences. Remember that you want the client to make self-motivational statements and if you defend these positions it may evoke the opposite. The counsellor should use skills such as shifting focus, simple reflections, reflection with amplification etc. to avoid head on with the clients

Summarizing

It is useful to summarize periodically during a session, particularly toward the end of a session. It is especially useful to repeat and summarize the client's self-motivational statements, elements of reluctance or resistance may be included in the summary, to prevent a negative reaction from the client. Such a summary serves the function of allowing clients to hear their own self-motivational statements

Phase two: strengthening commitment to change

Session five - Recognize change readiness – This is a major process in the MI. It is to consolidate the client's commitment to change, once sufficient motivation is present (Miller and Rollnick, 1991). Within the Prochaska/DiClement model, this is the determination stage, when the balance of contemplation has tipped in favour of change, and the client is ready for actions. To be certain of this, there are some changes the counsellor must observe

a) The client stops resisting and raising objections
b) The client asks fewer questions
c) The client appears more settled, resolved, unburdened or peaceful
Below is the checklist to assist the counsellor in determining client's readiness to accept, continues in, and comply with a change program

- Has the client missed previous appointments or cancelled prior sessions without rescheduling?

- Does the client show a certain amount of indecisiveness or hesitancy about scheduling future sessions?

- Is the treatment being offered quite different from what the client has experienced or expected in the past? If so, have these differences and the client's reactions been discussed

- Does the client perceive involvement in treatment to be a degrading experience rather than a new lease on life?

(Zweben et al. 1988).

Session six

If the answers to these questions suggest a lack of readiness for change, it might be valuable to explore further the client's uncertainties and ambivalence about drinking and change. It is also wise to delay any decision making or attempts to obtain firm commitment to a plan of action It is also important to remember that even when a client appears to have made a decision and is taking steps to change, ambivalence is still likely to be present. Counsellor should avoid assuming that once the client has decided to change; phase one strategies are no long needed in which case, the following actions should be taken

Step one - Discussing a plan
The key for the therapist is from focusing on reasons for change (building motivation) to negotiating a plan for change. Clients may initiate this by stating a need or desire to change or by asking what they could do. Alternatively, the therapist may signal this shift by asking a transitional question such as:

a) What do you make of all this? What are you thinking you'll do about it?
b) Where does this leave you in terms of your drinking? What's your plan
c) I wonder what you are thinking about your drinking at this point
d) Now that you are this far, I wonder what you might do about these concerns

Step two – Communicate free choice
The goal of the counsellor during this phase is to elicit from the client some ideas and ultimately a plan for what to do about the client's drinking. The overall message to the client is only you can change your drinking and it is up to you

1. Communicating free choice – An important and consistent message throughout MET is the client's responsibility and freedom of choice.
Reminders of this theme should be included during the commitment strengthening process:

a) It is up to you what you do about this
b) No one can decide this for you
c) No one can change your drinking for you. Only you can do it
d) You can decide to go on drinking just as you were or to change

Step three

2. Consequences of action and inaction – A useful strategy is to ask the client to anticipate the result if he/she continues drinking as before. What would be likely consequences of not changing? Similarly, the anticipated benefits of change can be generated by the client and the therapist. You could also discuss what the client fears about changing. Reflections, summarizing are appropriate therapist responses

Step four

3. Information and advice – Often clients will ask for key information as important input for their decisional process. Such questions might include; do alcohol problems run in families? Does the fact that I can hold my liquor mean I'm addicted, how does drinking damage the brain, what is safe level of drinking. In general, the counsellor should provide accurate, specific information that is requested by clients. It is often helpful afterward to ask for the client's response to this information: does it make sense to you? Does that surprise you? What do you think about it

Step - five

4. Emphasizing abstinence – Every client should be given, at some Point during MI, a rational for abstinence from alcohol.

The counsellor should avoid communications that seem to coerce or impose a goal, since this is inconsistent with the style of MIO Successful abstinence is a safe choice. If you don't drink, you can be sure that you won't have problems because of your drinking

o No one can guarantee a safe level drinking that will cause you no harm. In certain cases, the counsellor has an additional responsibility to advice against a goal of moderation if the client appears to be deciding in that direction. Again this must be done in persuasive but not coercive manner.

Step – six

5. The change plan worksheet – This is to be used during phase two to help in specifying the client's action plan. The counsellor can use it as a format for taking notes as the client's plan emerges. The format could be as follows

a) The changes I want to make are – In what ways or areas does the client want to make a change? Be specific. It is also wise to include goals that are positive

b) The most important reasons why I want to make these changes are … what are the likely consequences of actions and inaction? Which motivations for change seem most impelling to the client? The steps I plan to take in changing are …. How does the client plan to achieve the goals? What are some specific areas concrete
first steps that the client can take? When, where and how will these steps be taken?

d) The ways other people can help me are……in what ways could other people help the client taking these steps toward change?

e) I will know that my plan is working if …. What does the client hope will happen as a result of this change plan? What benefits could be expected from this change?

f) Some things that could interfere with my plan are ….. help the client to anticipate situations or changes that could undermine the plan. What could go wrong? How could the client stick with the plan despite these problems or setbacks?

Step - seven

6. Recapitulating – towards the end of the commitment process, as you sense that the client is moving toward a firm decision for change, it is useful to offer a broad summary of what has transpired (Miller and Rollnick, 1991). This may include a repetition of the reasons for concern uncovered in phase one as well as new information developed during phase two. Emphasis should be given to the client's self-motivational statements, the client's plans for change and the perceived consequences of changing and not changing. The counsellor should use his/her notes on the change plan worksheets as a guide

Phase three – Follow-through strategies
This may occur as early as the second phase depending on the client's progress.

Three processes are involved in follow-through: 1. Reviewing progress, 2. Renewing motivation and 3. Redoing commitment

Session seven

1. Step one - Reviewing progress

The counsellor will begin a follow-through session with a review of what has happened since the last session. Counsellor to discuss with the clients what commitment and plans were made, and explore what progress the client has made towards these.

Respond with reflection, questioning, affirmation and reframing. Counsellor to determine the extent to which previously established goals and plans have been implemented

2. Step two - Reviewing motivation

The phase one processes can be used again to renew motivation for change. The extent to this renewal depends on the counsellor's judgement of the client's current commitment to change. This may be assessed by asking clients what they remember as the most important reasons for changing their drinking

3. Step three - Redoing commitment

The phase two processes can also be continued during follow-through. This may simply be a reaffirmation of the commitment made earlier.

If the client has encountered significant problems or doubts about the initial plan, however, this is a time for re-evaluation, moving toward a new plan and commitment. The counsellor must seek to reinforce the clients' sense of autonomy and self-efficacy

Phase four – Termination

Formal termination should be acknowledged and discussed at the end of the sessions. This is generally accomplished by a final recapitulation of the clients' situation and progress through the MI sessions. The counsellors' final summary should include these elements:

Session eight

- Review the most important factors motivating the client for change, and reconfirm these self-motivational themes
- Summarize the commitments and changes that have been made thus far
- Affirm and reinforce the clients for commitments and changes that have been made
- Explore additional areas for change that the client wants to accomplish in the future
- Elicit self-motivational statements for the maintenance of change and for further changes
- Support client self-efficacy, emphasizing the client's ability to change

- Deal with any special problems that are evident

- Remind the clients of continuing follow-up sessions, emphasizing that these are an important part of the overall program and can be helpful in maintaining change

Dealing with special problems

Treatment dissatisfaction – Clients may report thinking that the assigned treatment is not going to help or wanting a different treatment. Under these circumstances, the counsellor should first reinforce clients for being honest about their feelings .e.g. I am glad you expressed your concerns to me right away. The counsellor however, should explore the client's feelings further. E.g. whatever you decide is up to you, but it might be helpful for us to talk about why you are concerned

Missed appointments – when a client misses a scheduled appointment, the counsellor must respond immediately. He/she should first try to reach the client by telephone, and when you do, the counsellor should cover these basic points:

- Clarify the reasons for the missed appointments
- Affirm the client – reinforce for having come
- Express your eagerness to see the client again
- Briefly mention serious concerns that emerged and your appreciation that the client is exploring these
- Express your optimism about the prospects for change
- Reschedule the appointment

If no reasonable explanation is offered for the missed appointment, explore with the client whether the missed appointment might reflect any of the following:

- Uncertainty about whether or not treatment is needed
- Ambivalence about making a change
- Frustration or anger about having to participate in treatment

Miller, W.R., Rollnick, S. (1991) Motivational interviewing. New York: Guilford Press